WAR ACES

No. 1

10 CENTS

EVERY STORY TRUE

"I FIGHT STUKAS!"

BY AN

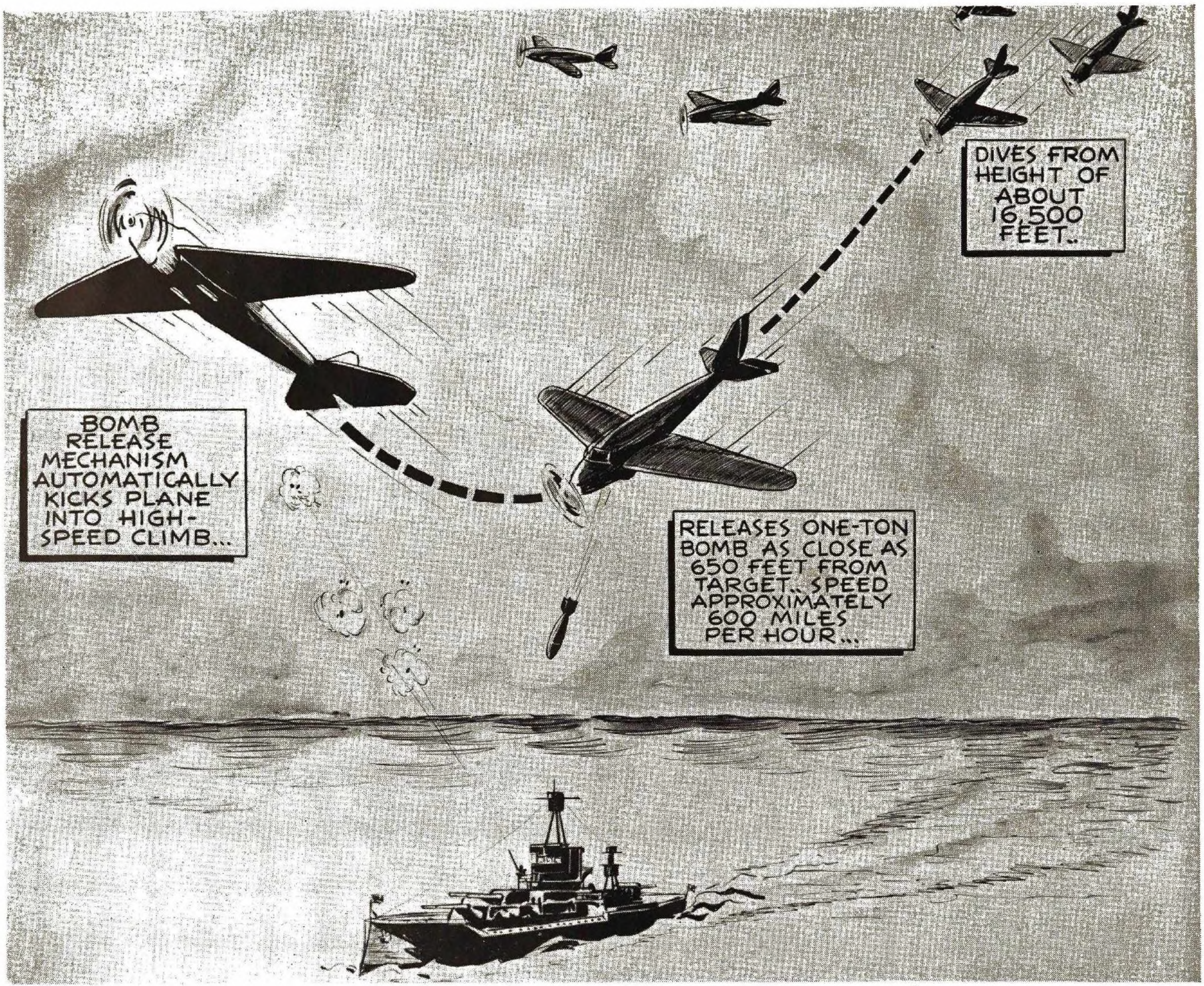
R. A. F. PILOT

NAZI BOMBS OVER U. S.—BLUEPRINT FOR INVASION

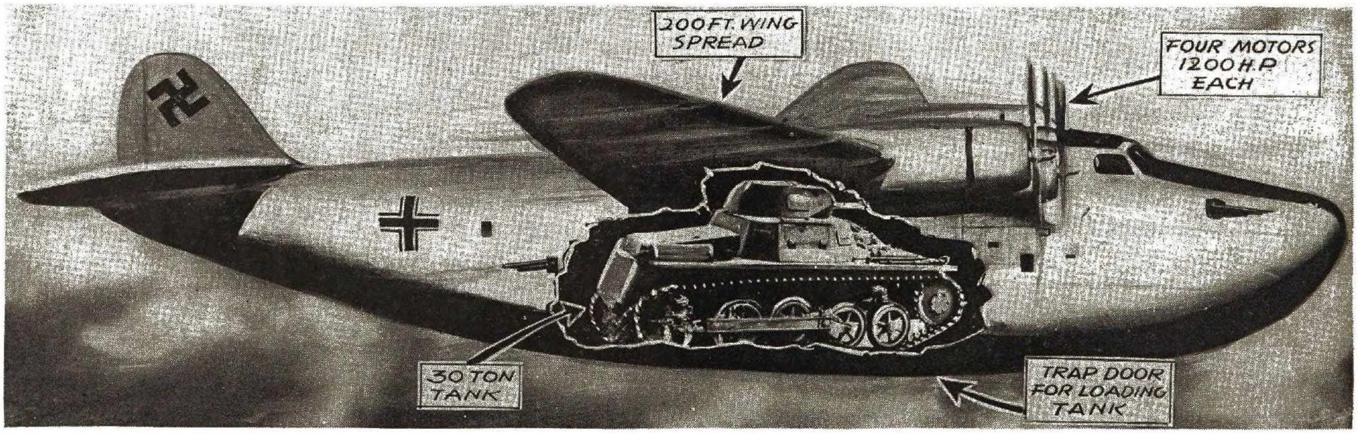
VISIT…

LANZAROTE
Caliente.COM

Raining Death from the Sky

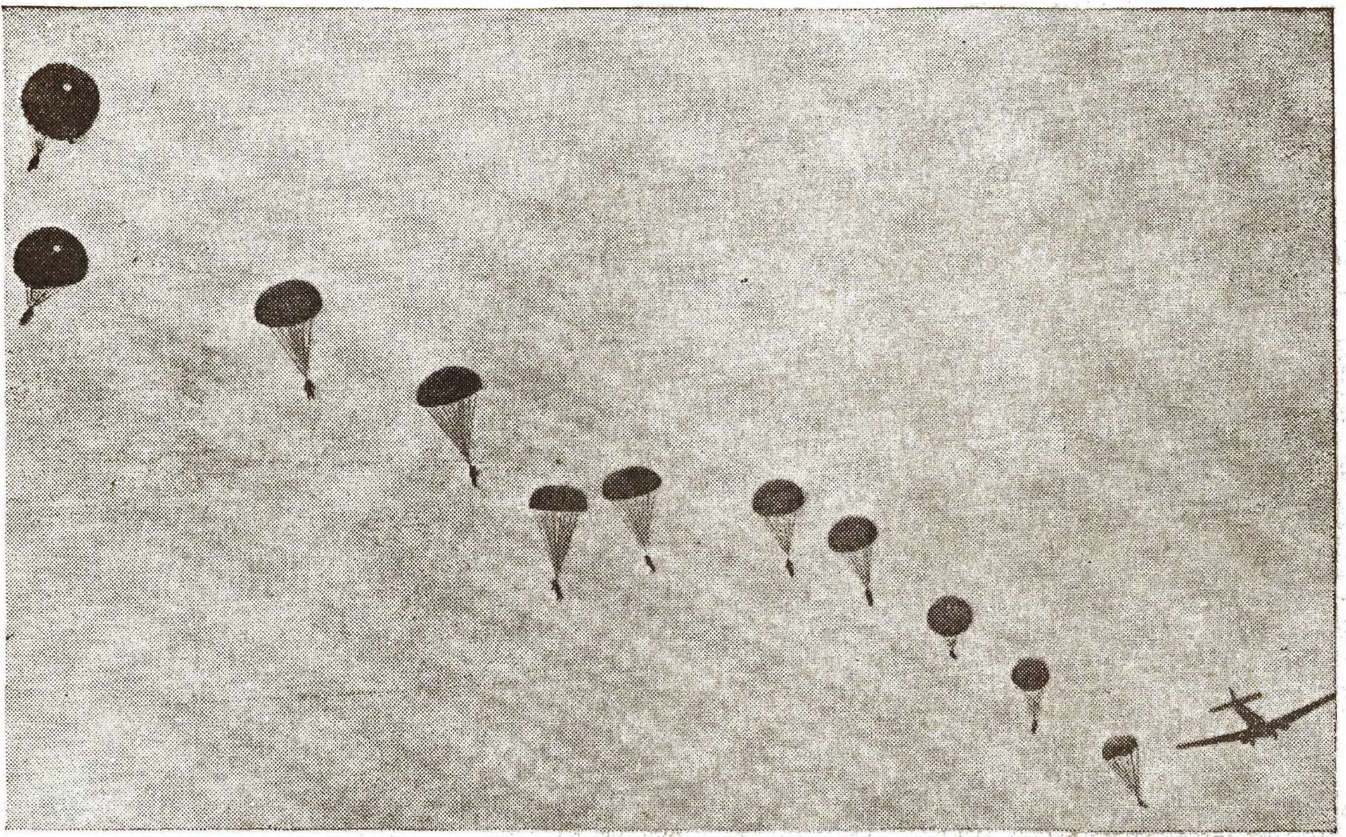

DIVES FROM HEIGHT OF ABOUT 16,500 FEET..
BOMB RELEASE MECHANISM AUTOMATICALLY KICKS PLANE INTO HIGH-SPEED CLIMB...
RELEASES ONE-TON BOMB AS CLOSE AS 650 FEET FROM TARGET.. SPEED APPROXIMATELY 600 MILES PER HOUR...

Here is how the Stukas work against Allied battleships, as well as against land forces. The huge planes, holding bombs that may weigh as much as one ton, start a power dive at a height of about 16,500 feet. In their descent they attain speeds of as much as 600 miles per hour. Then, when they are within less than 1,000 feet of their targets, the bombs are released and the Stukas, by a mechanical device, automatically shoot upward, even if pilots are disabled.


200 FT. WING SPREAD
FOUR MOTORS 1200 H.P. EACH
30 TON TANK
TRAP DOOR FOR LOADING TANK

A huge plane carrying a heavy tank may prove to be one of Hitler's secret weapons in his projected attack on England. Artist's conception shows how the thirty-ton "moving fortress" would be stowed away in the fuselage of the ship. Germany, according to reports, has been manufacturing these tank-carrying planes, which have a 200-foot wingspread, in a secret factory in the Black Forest. It is said that at least 200 of them already have been built, with more on the way.

WAR ACES



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West F. Peterson, Editor

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I FIGHT STUKAS!

Dogfights thousands of feet above the earth under the nerve-wracking conditions of modern warfare! Flying again and again against the dive bombers and Messerschmitts! Machinegun duels in the clouds! Here you experience all the thrills of combat!

BY AN R. A. F. PILOT

TUMBLING CLOUDS leaped in the murky darkness eleven thousand feet above the English Channel. Gray shafts of the coming dawn stabbed the murky darkness. A strange peace and silence seemed to penetrate that canopy of the heavens.

Below was carnage and death and the belching guns of hate. It was a few minutes before sunrise on May 10th, the day when the second World War broke with all the fury of diabolical human destruction.

I was in a Spitfire, England's greatest fighting plane, a member of a squadron of nine rushing to give battle in the clouds.

Below I could see only gray fog, but far ahead, across the Channel, were the tiny dots of black—the coastlines of Belgium and Holland. Those dots didn't look like the outline of countries. They were only blurs of black in the faint dawn.

Ahead of me was my squadron leader. At my right and directly behind me were seven other Spitfires. We were flying like wild geese, in battle formation.

The sleek and graceful bodies of the Spitfires, with their elliptical wings, tapering off in thickness, looked like gleaming birds. The muffled roar of powerful Rolls Royce "Merlin" engines droned away as we cut the air at better than 350 miles an hour.

But I wasn't listening to the drone of those engines. I wasn't aware of the low swung cantilever ships on my right and behind me. I didn't look at the dark blurs that were Holland and Belgium.

I was thinking and feeling about like every pilot does as he approaches his first combat in the air. Two years of training had prepared me for this hour, two years of wondering what I would do when the conflict came.

I remember now that my mouth was dry and I kept wetting my lips with my tongue. I remember that only one thought raced through my mind. Would I fall in the first combat? Would I forget everything I had been taught?

The ease and power of my ship gave me a certain feeling of confidence. The English Spitfire is one of the neatest and most maneuverable fighting ships in the air today. It is miles ahead of the crates that pilots flew in the last war.

No longer does a pilot have to steer his ship and fire a machinegun at the same time. On the wings of my ship were eight Browning machineguns, operated by oil pressure. A button on the instrument panel would send them into action. All I had to do was to aim my ship so that the hail of bullets would strike the enemy.

The sturdy Rolls Royce engine could send the plane in a five-hundred-mile-an-hour dive. It gave a wingover power that was so fast that machinegun bullets couldn't catch it in this dangerous move.

My ship had everything. I knew that as I stared out of the glass hood canopy over my head. I wet my lips again and wondered where the German planes were. The great push had started. We had been told that the air would be full of Messerschmitts and Stuka bombers, but we had practically crossed the Channel and we hadn't met a Nazi craft yet.

And then . . .

Twenty Messerschmitts!

The wings of my squadron leader's plane moved up and down—the signal of an approaching enemy. My teeth clicked. Cold beads of perspiration stood out on my brow. I charged my guns and give them each a burst to warm the oil.

Then somewhere ahead of us, in the tumbling clouds of mist, specks appeared of grayish black. These specks grew larger, taking form with hideous rapidity. First the wings and the fuselage. They grew larger, as if expanding in front of my eyes.

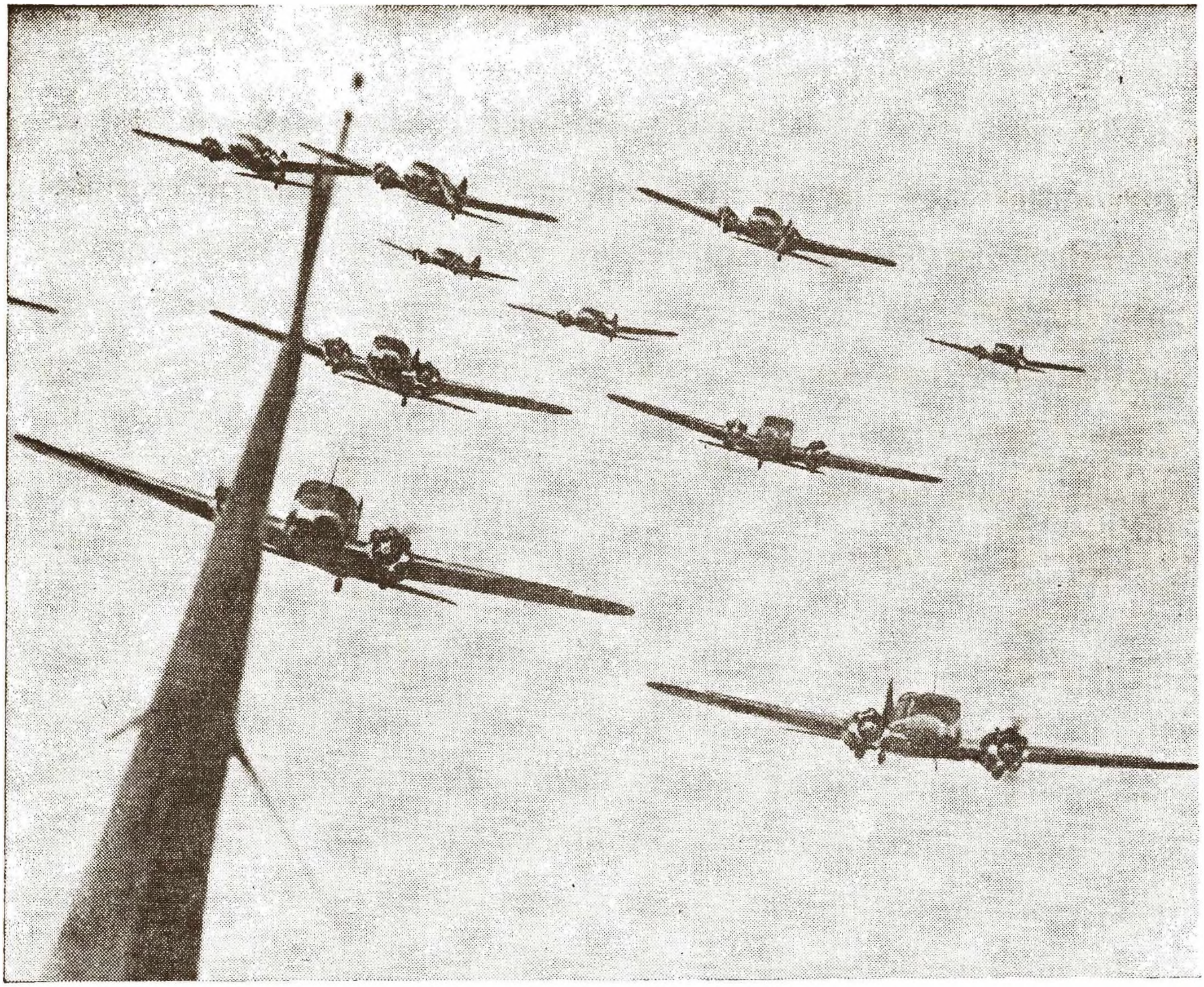
At first I had only seen several specks, but suddenly they had increased to twenty. The wings and the fuselage and truss bracing showed that they were a squadron of the famed Messerschmitts-110's.

In that split second a hundred things raced through my mind. I tried to remember every detail of my two years' training—of gunnery, strategy, diving and combat.

Another moment and we are in the thick of the fight. A signal from our squadron commander. We swerve right and left, breaking our battle formation. We send the noses of our machines straight up, striving for position, which in an aerial battle is half of the victory.

The beads of cold perspiration leave my forehead. My mind is cool. I am amazed to find that I am not paralyzed with fear. There's no time for that.

Things happen in the matter of seconds. We bank our machines. Bullets scream from our machineguns. We catch the Messerschmitts in a broadside. Three



A fleet of British warplanes soars over the Channel, bound for do-or-die conflict with the enemy.

of them lunge crazily, turn grotesque cartwheels and then plunge toward the sea, a cloud of jet black smoke following them down.

We dive out of our banked formation. We separate. The Messerschmitts are on us and around us. One is pulling up, slightly to my right. I pick him. He is coming up to me at a steep climb.

My machineguns roar as I dive down to meet him. Tracer bullets stream from his plane. They are coming from the nose. I hear the crunching sound of machinegun bullets tearing through my wings and my tail. I have a flash of nausea and fear. It passes.

We are almost head-on. A spurt of bullets from my machinegun crashes through the hood covering of the Messerschmitt. I see a body slumping at the controls. The plane is diving downward, enveloped in a cloud of smoke.

Bullets Churn the Air

Daylight has come by this time. The mist and the fog have left, but we are still in the clouds and sprays of white keep darting against my plane.

I come out of the dive, bank to the right in a wing turnover. Planes are all around. Bullets are churning the air. I send the nose of my ship up. I remember the instructions when the squadron is outnumbered. Keep above the enemy —but that is something you can't always do.

I glance down to see my first opponent crashing toward the earth. A spray of machinegun bullets pierces my ship. I shake my head, get back to reality again. An enemy plane shoots underneath me. He banks to the right.

I pull a tight wingover. My plane moves with amazing speed. The second spray of bullets misses my plane. My wingover is still in action. I am climbing and then I nose down into a headlong dive at a speed of nearly five hundred miles an hour.

The pilot in the Messerschmitt is no amateur—no pilot with only a few hours of combat flight. He executes the most beautiful Immelmann I ever saw. His ship goes into a half loop, rolls right side at the top, and then his guns belch bullets at my diving plane.

Tail and wings are again ripped with bullets. I sideslip out of his line of fire. My opponent does the same and the next thing I know, he is on my tail. I gulp in consternation. It seems inhuman that a man can maneuver a ship like that.

I make a desperate move. I swing out of the slip and into a vertical turn. The ease and the amazing speed with which my Spitfire executes these gyrations is a thing that thrills me. I escape the tail death.

But in a split second he is on my tail again. I curse violently. Fear has given way to anger. I whirl into a reversement, going from a right vertical into a left one.

He is still behind me. Sizzling lead seems to hit every part of my plane. I wonder why I am still flying. It all seems grotesque and unreal.

My ship shoots into a loop. I yank it back near the top of the loop, go into a chandelle. This brings me near his right side. I send my plane forward in a quick stab. He eludes the stab and darts away, with me after him.

I give my ship the gas. It fairly leaps through the air. My head whirls. Centrifugal is doing its work, but I know he is just as bad off. My plane swoops to his right side. I whirl in a side bank, bringing my wings up as I do.

Diving to Earth

My machineguns belch bullets. I have tried the most dangerous trick in all combat flying. I have opened myself to enemy fire with no protection, but in this maneuver it is a question of whose guns spurt death the quickest.

Mine beat his a fraction of a second. A line of bullets smashes through his plane. The Messerschmitt whirls over and then starts a headlong dive for the earth, wobbling in crazy cartwheels.

I pull up out of my bank. I don't think of him any more. There are other planes around me, but when I straighten out my ship and peer through my telescope I see that I am far way from the scene of fighting.

I see other things. Twelve of the Messerschmitts are racing back for Germany. Only twelve of them. There had been twenty. I see my fight squadron re-forming again. Two ships are missing.

My heart skips a beat. Who are the missing? Then the squadron takes formation. Five and Three are missing on the left. Tompkins and Belton.

Fear of combat soon passes, but that moment when you turn back to see who are missing—well, that is a feeling no pilot ever shakes off.

My squadron headed back for England and the secret flying field. My first combat in the air was over.

I did what every other flyer does in those hours after the first fight—I got drunk. You have to to stave off the nervous reaction. At dawn the next day you have to go out again. Then you go as a veteran. Those first feelings of fear and uncertainty are over. A fighting pilot is made in twenty minutes.

Junkers Ju-87 dive bombers like this were the targets of the R. A. F. Spitfires. The author of this article tells how he destroyed them.

And that was just how long my first air combat took, and I had brought down two planes.

The next morning at dawn we went over again. Again we met a squadron of Messerschmitts at almost the same place. Another dogfight and two more victims. We lost three planes.

When we returned on that second day, we were a cocky bunch of pilots. We were convinced that our Spitfires were the greatest planes in the air. We had won because the larger German planes couldn't be maneuvered with the ease of our smaller ships.

But during these first days we hadn't been called upon to do our best work. The terrible Stuka bombers had not made their appearance. In fact, they didn't appear until the sixth day—the day that five thousand tanks, lined hub to hub, made that costly break through the French fortifications north of Sedan.

Meeting the Stukas

And overhead, preceding these tanks, were the new type of German bombing plane that could dive at six hundred miles an hour to within a hundred feet of the earth if necessary, dropping their huge bombs on stunned soldiers trying to hold the long thin line of fortifications.

I don't suppose military history records any more devastating and powerful offensive than this first German attack north of Sedan. It caught the French with only partly trained troops—and too few of them.

It was a blunder of the military command. They had figured the Meuse River would be too difficult to storm, but the Germans were prepared. The Nazis crossed while the Stukas rained death on the enemy troops.

A dive bomber roaring out of the skies was something new in warfare—and something new is always effective at first.

Now the Stukas don't appear so terrible to the troops, because they have been taught to expect them. But on that day north of Sedan they were terrifying enough to demoralize the French.

It was on that fateful day that I got my first experience fighting a Stuka. It was a unique experience. We didn't have any rules to follow. It was a new type of combat fighting and a new type of enemy.

And when we were rushed to Sedan to fight the Stukas we didn't have time to discuss among ourselves what we might do. We didn't even know then just how these dive bombers worked. It was a case of every man for himself, using whatever he believed the best tactics.

The order for us to fly to Sedan came at eleven in the morning. Before we took off, two hundred Blenheim bombers, the light combat bombers stationed in France, had rushed there.

When we arrived over Sedan, the air and the ground below was a melee of roaring explosions—a hell on earth if there ever was one.

Death in the Sky

Five hundred Stukas were diving on French troops. An equal number of Messerschmitt pursuit planes were there to protect the dive bombers.

There was no chance even to think about formation as the squadron roared into the fight. The air was so thick with planes that head-on collisions occurred all around me.

I don't suppose that I will ever live in such gory hell of death again. I don't know yet how I ever came out alive.

My machineguns were roaring at the ships that were around me thicker than flies. I didn't know how many of those planes went down, but I recall faintly that I saw three dive for the earth.

One of the diving Messerschmitts hit a Stuka midships. There was a deafening roar as the Stuka, broken in two parts, tumbled to the earth. Its bombs had exploded in the crash.

I said we didn't have any instructions on how to fight the dive bombers, but we did have orders to elude the fighting planes and get the Stukas.

Into that roaring melee of planes

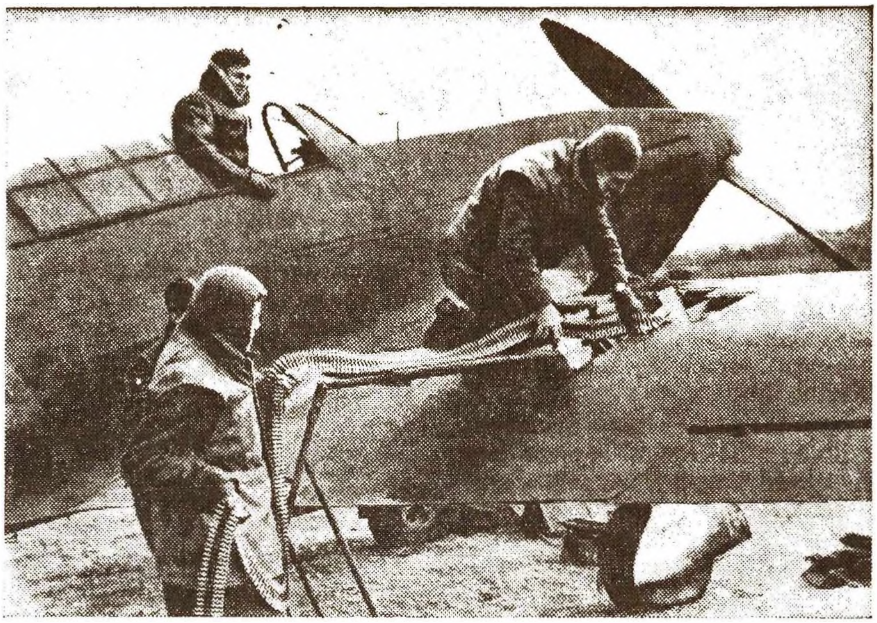
Photo passed by British censor shows the wreckage of a German bomber that was brought down in Belgium. Some of the heaviest air fighting took place when the Nazi troops broke through at Sedan.

I swept in a screw candelle, hoping to protect myself from the hail of lead. Up I shot, turning over on my side as I hit the ceiling on the loop.

In that second I had a view of what was happening below me. Masses of planes were diving with machineguns roaring. At least twenty craft were in flames and smoke. And under them armies were locked in a ghastly battle of death.

I brought my plane around, headed it down. Stukas, three of them, were soaring over their targets, ready to make their screaming dives. I was over them. I pointed toward them, sending my plane down with all the speed the Merlin engine would generate.

My machineguns spat slugs from both wings. Bullets riddled the center Stuka. It turned over on its side and then went tumbling down.



An English ground crew prepares a fighter for action by feeding long belts of machinegun cartridges into the weapons inside the wings.

Blasting at Space

But I couldn't pull out of that frantic descent until I had shot below the other two Stukas, and then for the first time I saw the power of their dive. It was something unreal, almost fantastic. I was dropping at close to four hundred miles an hour, but they shot toward me as if I was merely floating in the air.

Bullets sprayed my machine. A slug clipped the glass of the hood over my head. Another splintered the instrument board. A third cut my shoulder, sending a stinging pain down my right arm.

Then as suddenly as the burst of fire had started, it ended and the two Stukas were below me, plunging nose-first for the ground. Two Messerschmitts, equipped with cannon, were dropping on me from above.

I muttered a silent prayer, prepared to die. I sent my Spitfire in an underwing loop that ended in a screw candelle. The speed with which my ship executed that movement was amazing—so amazing that the big Messerschmitts, unable to maneuver with such ease and speed, blasted their machineguns at space.

The top of my wingover was fifteen hundred feet from the ground. I came out of it in a dive that retraced my course. I plunged at the Messerschmitts, my machineguns blazing death.

It was do or die. One of the Messerschmitts went down, with the pilot hood completely shattered. The other banked, waiting for me. I yanked my plane out of the dive, banked over to meet him and blasted away.

The movement caught him unaware. My machinegun bullets riddled the bottom of his plane.

Almost a Knockout

But before I could pull my plane out of the bank, a third Messerschmitt was on my tail.

What happened next is all vague and unreal to me. I remember only fleeting events. I was like a prizefighter who has been knocked out by a blow but whose subconscious mind keeps him slugging.

Bullets were splattering all over my fuselage. I rolled in a reversement and then was out of it. The next thing I recall I had rolled over on my back. Then I was on my side. Again I was on my back.

I dove. It seemed that bullets came from all directions. My machineguns blazed fire. The Messerschmitt went down. My ship rocked. . . . My shoulder was numb. . . . I couldn't stop the rocking ship . . . closer and closer to the death-strewn earth I fell.

The blaze of great cannon . . . the earth rocking . . . men dying in a cauldron of hell . . . I was falling . . . falling . . . into that cauldron. . . .

My head swam crazily. I tried to yank my ship on an even keel, but it wouldn't straighten up.

I could see the earth . . . struggling soldiers . . . great tanks . . . dirt being blasted up to meet me by huge shells and bombs. . . .

I don't remember what I did next, but I suppose my subconscious mind turned the trick. I couldn't stop the dive of the ship, but I could roll over.

This must have stopped the downward plunge, because the next thing I knew I was flying low over Saint Quentin, then well inside the French lines.

My plane was wobbling. My eyesight was blurred. I saw three other Spitfires diving for me. They guided me to a secret flying field.

When I got out of my plane and had a shot of rum, I took stock of myself. A machinegun bullet had grazed my shoulder, but otherwise I was unhurt. I had lost considerable blood and was told to take a week's rest. But by noon the following day I was ordered into the air again with a new Spitfire. I had recovered my strength, and was far more fortunate than many other pilots.

The smashing blows of the German air fleet required that every pilot that could man a plane be sent into action.

"I dove my Spitfire . . . Bullets came from all directions . . . My guns blazed fire . . . The Messerschmitt went down! Its pilot hood was shattered!"

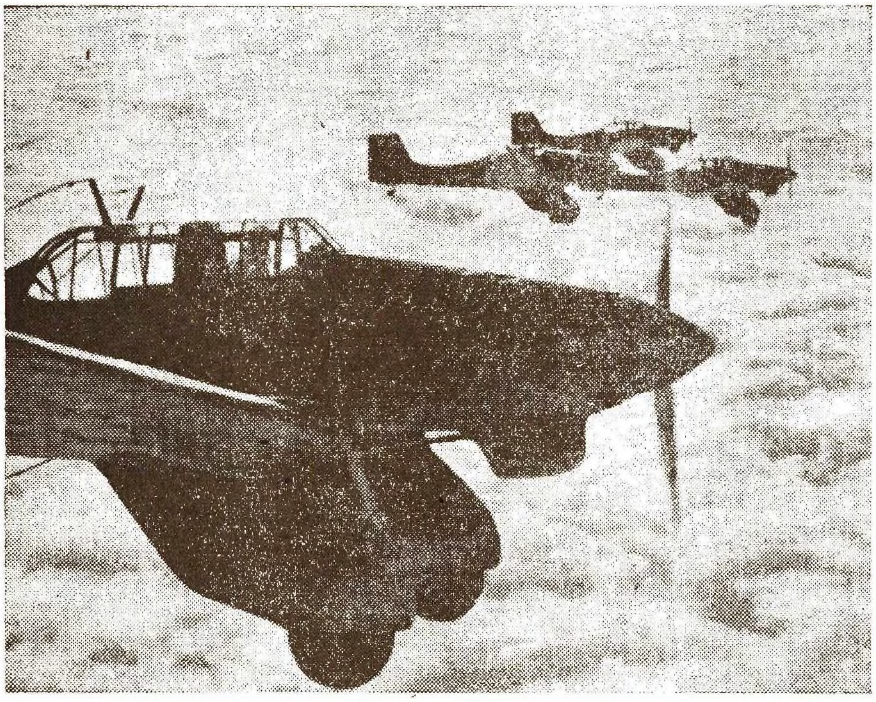
Allied Planes Superior

That fight over Sedan had had a very telling effect on the German flyers. Over forty of their machines had been brought down within twenty minutes. In every battle of the air, the German ships proved inferior in fighting qualities to the English and the French planes.

So by the second day after Sedan the German pilots had been given orders to evade fights with our planes—to draw us away from German bombers if possible, but not to engage us unless no other choice was possible.

This was due largely to the fact that the German Messerschmitt is no match for an English Spitfire or Hurricane plane. Both the English ships can easily out-maneuver the German craft.

Another thing that works against the German planes is the lack of training of their pilots. The Germans have gone into airplane business on a mass production basis, both in planes and pilots.


This excellent photo shows German Messerschmitts flying over clouds toward a combat scene. These fighters are used to protect the Stukas.

Their idea is to turn out a plane as rapidly as possible, with few instruments. A pilot with less than twenty hours of training can fly a bomber to a certain position and drop the bombs and fly back.

If he doesn't come back, the Germans have a plane and a pilot to take his place. It's a new system. Maybe it will work and maybe it won't.

I found out the new tactics of the Germans on that afternoon flight. The Nazis were attacking the French around Verseines, and were using dive bombers with considerable effect.

We were sent to fight the Stukas. By this time we had learned the trick.

These powerful divers, going down at around six hundred miles an hour, are too fast for a Spitfire or any other known fighting plane. You can't catch them—but you can attack them before they start their dive.

Actually the value of fighting planes against them lies in preventing them from getting a line on their target.

The tactics of these planes are to soar high over a battlefield, pick out a tank, an artillery piece, or a group of soldiers, and then shoot down and with unerring aim loose their bombs.

They go down so fast that no anti-aircraft gun can hit them. The only fire that reaches them near the earth is from machineguns in the hands of soldiers. Machineguns have taken a terrible toll of those divers, but it seems that when one is brought down, two more are waiting to take its place.

Twelve Stukas Downed

But to get back to fighting dive bombers with Spitfires and Hurricanes. If we can swoop down upon them before they start their dives, they are lost; although doing that is something of a trick because of their uncanny speed.

It was four o'clock in the afternoon when we roared against fifty dive bombers. My squadron consisted of eight Spitfires. Our squadron leader had instructed us to break formation when we sighted the enemy—that each plane should be on its own.

Our general line of attack was to stay over these Stukas and get as many as we could before they went into their dives. As we roared down out of the clouds, no Messerschmitts were in sight.

Two thousand feet over them, we broke formation. Our planes pointed headlong for the Stukas, each of us picking out his own target.

I picked a Stuka that had swung out of his wingover and was turning to start another dive, this time to strafe the ground.

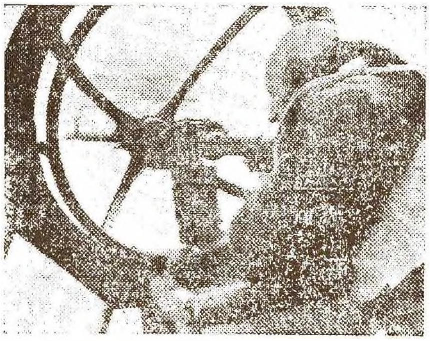
I dove with machineguns spraying. The Stuka went down. Other members of my squadron had taken a toll. The Stukas started to hedge, hoping to escape.

In four minutes the Stukas had disappeared—those that hadn't been brought down. The total was twelve Stukas in that five-minute battle. . . .

War tactics change with every engagement. The riot of these bombers brought a new type of defense by the Germans. This consisted of sending twenty to forty Messerschmitts with each bombing detachment.

From that moment on the life of an English pilot was worth but little in that ghastly battle in the air. The first week or so found us fresh and imbued with the spirit of adventure. But as time wore on and we were sent on two daylight

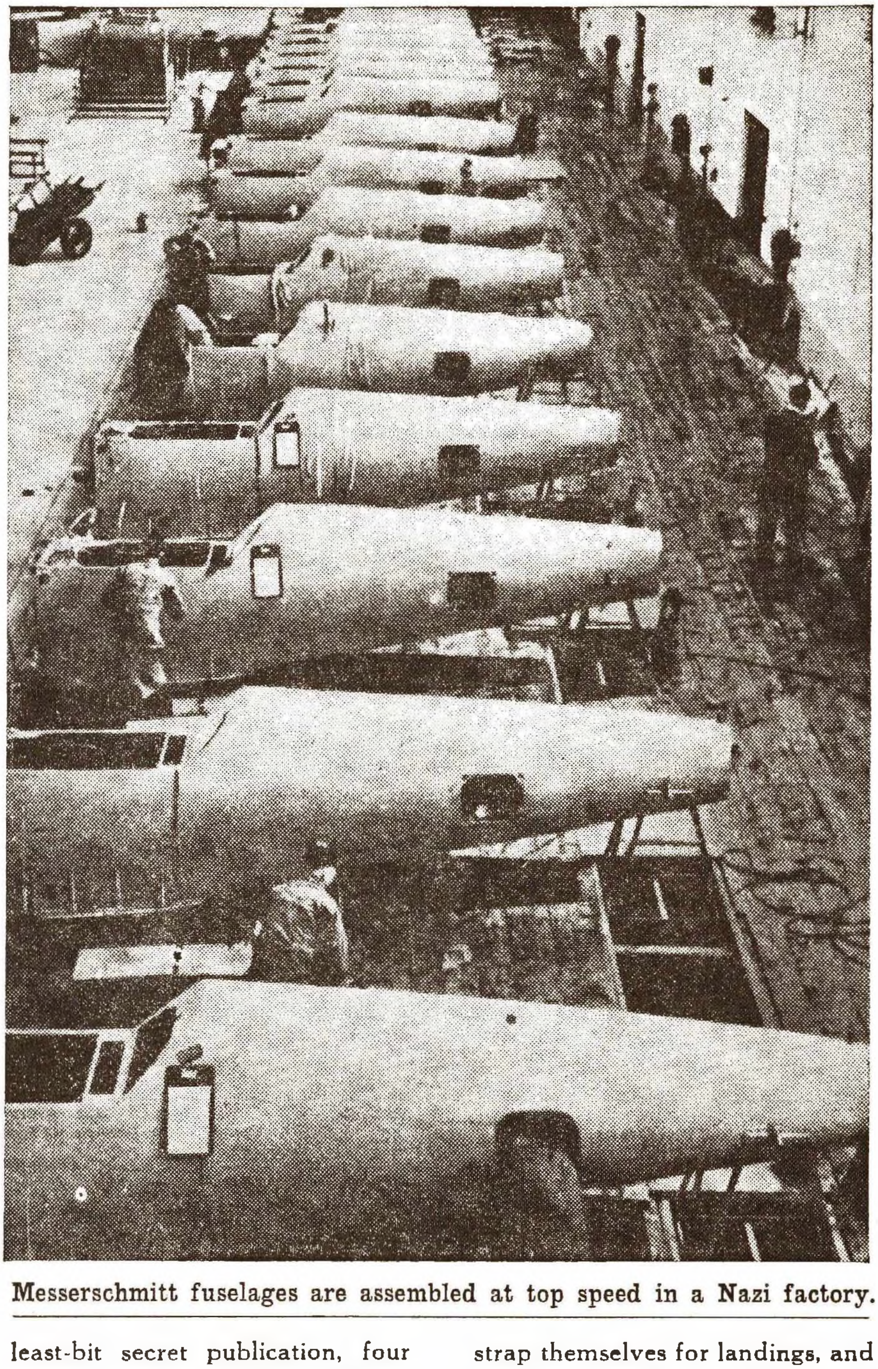
(Continued on Page 48)


A German gunner crouches in the nose of a huge bomber.

HOW HITLER BUILT

By CAPTAIN KENNETH BROWN COLLINGS

(U. S. Marines, Retired—Noted Writer on Aviation)



Messerschmitt fuselages are assembled at top speed in a Nazi factory.

BEHIND THE GERMAN aerial blitzkrieg in Norway, Flanders and Northern France is the story of an Allied blunder so startling that it seems almost incredible. But every word of it is true. In the first of those campaigns, Hitler uncorked his parachute troops. No one seemed to have the least idea that the Germans were so equipped, and the swarms of armed parachutists floating to earth caught the world by surprise.

But why anyone should have been surprised, I can't for the life of me figure out. Neither will you understand it when you hear the absurdly simple facts. Here they are:

The official name of the German air force is Die Deutsche Luftwaffe. That is also the name of the official air force yearbook, a profusely-illustrated souvenir volume published each Spring since 1936. Designed to keep Germany air-minded, each issue showed members of the air corps flying, eating, boxing, swimming, and repairing airplanes. Pilots and mechanics invariably sent it home, book stores all over Germany featured it in their windows. At a price of three marks eighty pfennigs for the paper-bound edition—and one mark more for cloth—the public snatched it up, and copies were mailed all over the world. Many were received in the United States.

And the astounding part of it is that in the 1939 edition of this widely-circulated and not-the-least-bit secret publication, four pages—numbered 71 to 73 inclusive—were devoted to parachute troops!

Every detail of their training was photographically illustrated. Embryo umbrella men swung from parachute harnesses suspended from hangar roofs while instructors corrected their technique—showed them how to unstrap themselves for landings, and how to land lightly. Advanced students took to the air and dived from speeding Junkers transports. They landed, picked themselves up, grabbed machineguns, advanced to the attack.

And that's what caught the world by surprise. That's what sent American newspaper editors running around in circles looking

AN ON-THE-SPOT OBSERVER REVEALS HOW GERMANY SIDE-STEPPED

HIS AERIAL ARMADA

This photo was taken at a gliding meet in Germany long before the war.

for photographs. One, at least, found them, and I think I know where. I recognized the pictures as coming from a Deutsche Luftwaffe yearbook, and I'll bet he picked it up in some German-language bookstore right in New York City. Anybody could have done the same thing.

But that is by no means the end of the untold inside story. Nor was it the first of the Allied mistakes. As early as February, 1934, Dora Fabian, editor of the pacifist German newspaper Das Andere Deutschland, fled before Hitler's wrath to tell the British about forbidden German aerial rearmament—only to have her story doubted and buried by the House of Commons. In fact, there were so many mistakes that this writer—who is not only a war correspondent just returned from Germany, but an aviator of twenty-two years' experience—hardly knows where to begin. But every general knows that fire power—call it hitting power if you like—wins wars. And since Germany has taken hitting power into the air, let's start there.

Object of War

To do that, we must first answer some questions. Suppose we were an army about to wage war. Who, or what, would we want to hit, and where? What would we do after we struck the first blows? What can an airplane hope to accomplish in combat? What is the object of war?

Let's take that last question first, because it is the least understood. Few civilians know what all generals have always known—that the object of offensive war is not to defeat an enemy army, but that it is to bend an enemy's civilian population to an invader's will. Wars are not won when an enemy army surrenders; they are won when the attackers gain control of the enemy's centers of wealth, population and industry. Killing a lot of people will scare him; shelling or bombing cities will make him mad. But unless invasion closely follows the bombardment, he will gather his wits, repair the damage, and fight on.

So while other weapons may clear the way, the war is not finished until an infantryman with a bayonet squats on a manure pile, points his rifle at a farmer, and says: "You grow wheat for me!"

Air power fits into that rule. Not even German air power changed it. The secret of German success is that the Nazis didn't try to change it.

What, then, did they do? What does air power do? It makes things easier for the advancing ground troops. In effect, it becomes longer-range artillery. In the past, the only protection offered advancing infantry was an artillery barrage.

But the maximum effective range of artillery is well under twenty miles—whereas airplanes

THE VERSAILLES TREATY RESTRICTIONS TO GAIN SUPREMACY IN THE SKY

can range hundreds of miles. So while the British and French were still thinking in terms of ships designed to fight other airplanes, the Germans were thinking about flying gun platforms—cannons on wings!

Not that they neglected speed or other aerial fighting qualities. They didn't. They knew full well that obtaining command of the air—chasing the other fellow's airplanes out of the skyways—was a necessary preliminary. So the German aerial attack was centered around the Messerschmitt 109. Which means—a cannon on wings!

Speed is not to be sneered at, and the Messerschmitt has plenty of it. It is a single seater fighter capable of 354 miles an hour. But even more important, it is armed with a 20 m. m. gun firing shells through a hollow propeller hub.

The engineering problems thereby solved are innumerable, and the advantages gained are tremendous.

Such cannon increase the weight of the airplane. The more an airplane weighs, the more wing area it requires, the greater the frontal resistance, and the slower it flies. But the Germans have overcome all that and few of their rivals have. Most airplanes of equal speed are armed only with small caliber machine guns. That means the Messerschmitt can sit safely outside the other fellow's range and blast him.

One Hit Is Enough

A machinegun slug does not disable an opposing aircraft unless it kills or disables the pilot or strikes a vital mechanical part. Pilots have come home safely with wings looking like sieves. But they don't come home with even one 20 m.m. shell hole! If one of those babies strikes even the fabric of a wing, it explodes. And then good night!

The 109s are augmented by similarly designed Heinkel 112s, and by Messerschmitt 110s. The latter are twin-engined single-seaters, slightly slower but with longer cruising range.

Junkers builds most of the dive bombers. The Ju-87 is a single-motored gasoline job, while the 86-k is a twin-engined model with either gas or Diesels. With either power plants it will do 250 miles per hour in level flight.

The long-range bombers vary from the 261 m. p. h. Heinkel 111-k—equipped with twin, inverted V-type engines for streamlining—to the 298 m. p. h. Dornier 17. Henschel builds a two-seater observation plane which clicks off 225 or more with full military load at better than 20,000 feet. Dornier builds a long-range flying boat—the Do-18—with tandem tractor and pusher motors mounted in one nacelle.

At the other end of the speed scale the slotted and awkward-appearing Fieseler "Storch" flies so slowly that it appears to stand still. Whether the slow-landing Fieseler was the "secret" Nazi weapon which penetrated and captured the fort at Liege has yet to be revealed. But I should hate to bet against it.

That, then, is the rough picture of the mighty German air force as it appears from the outside. But take it from an insider, we haven't scratched the surface—we haven't looked at what any general will tell you is the motivating force behind any military establishment — we haven't touched on the subject of morale! In the German air force, morale is synonymous with white hot hatred. To understand it, it is necessary to begin years ago—and if ever an observer had a ringside seat, I had it.

These are the men who, at Hitler's orders, built up the Nazi air force to its present strength—Hermann Goering and Ernst Udet.

Wings Were Clipped

In the early Fall of 1918 I was serving in France as a day bombardment pilot with the aviation section of the U. S. Marines. My comrades and I were mere striplings. We thought this was the war to end wars—the war to make the world safe for democracy. We hated the Kaiser and believed the individual German aviators were saps for following him, but in all other respects considered them pretty decent eggs. What the Germans were thinking—well, we never bothered to find that out.

Foch drove to victory, the Armistice was signed, and then came the Treaty of Versailles. The treaty limited the German army to hundred thousand men. That in itself was a body blow to German pride, but even before that the terms of the Armistice had deprived Germany of her airplanes and forbidden her to build more. That grounded thousands of German pilots, turned them into gaping fish out of water, faced them with the bleakest of prospects—the thought that they could never roam the skyways again.

Hermann Goering, with twenty-two air victories to his credit, watched his beloved Fokker biplane being loaded into a freight car for delivery to the Allies as

part of the spoils of war. Ernst Udet, with sixty-two victories, burned his plane rather than see it suffer the same fate. All over Germany thousands of pilots and mechanics stacked airplanes nose down and tail to tail and applied the torch.

And in that fiery inferno was born the cold, calculating fury, the desire for vengeance, which has actuated German aviators ever since!

Back home in Quantico, Virginia, we were having too much fun to think about that. One man's poison is another man's meat, and we were enjoying ourselves flying the confiscated German planes. We looped them, we rolled them, we tried to tear the wings off them in order to see how strong they were. We weren't even careful of our landings, and when I smashed a Fokker landing gear, all the commanding officer did was laugh.

"Who cares?" he said. "Those old German crates didn't cost us anything."

No, not yet. But they were going to cost the world plenty. I got my first inkling of it when, in 1923, I returned to Europe as a civilian observer. Then I discovered a lot of things fast.

Not that the dread name of Hitler was yet well known. It wasn't. And his twin flying henchmen, Goering and Udet, were still nothing more than ex-war pilots trying desperately to make a living in the chaos of post-war Germany. But the underlying hatreds were there, and it was apparent that the Germans refused to accept the Treaty of Versailles as the last word.

The Major Weapon

The whole thing was cockeyed. It didn't make sense. Germany was bankrupt—and Germans resented that less than they did being deprived of their beloved uniforms and brass bands. People were starving—and they could tolerate that better than they could the blow to Teutonic pride. Among all their enemies they centered their hatred on the British. Out of all the weapons which had brought about their downfall, they had decided that just one had been important.

"Marshal Foch did not defeat us," said a young German in Berlin. "Marshal Tank defeated us."

What he meant was that the surprise introduction of tanks by the British had turned the tide of war. Not men, but a mechanical monster had turned the trick.

"And mechanics are right down Germany's alley," said my informant. "Next time the major weapon will be airplanes—and we will be ready."

Pooh, pooh, I thought. To start with, it takes twenty years to grow a new generation of soldiers. And the iron-clad Versailles Treaty forbade Germany a single military airplane. It made her beg for even a limited number of commercial planes. How could she be ready?

Captain Collings, author of this article, got his facts first-hand.

But I overlooked one factor, and so did the men who framed the Versailles Treaty. The laws which forbade the Germans to fly were not their own. Consequently they were determined to find a way to break them.

How? The first thing I discovered was that the 1922 graduating class of the University of Hanover had formed an association and sworn a solemn oath. Their avowed purpose was to keep the Versailles Treaty from extinguishing German aviation by building airplanes without motors.

That meant gliders! And soaring planes! The Versailles pact had left that loophole, and the Germans were determined to crawl throught it. The next time I went back I saw how they had gone about it.

The catch-word—designed to deceive the outside world—was "sports flying." Urged on by the revenge motive, all Germany had gone wild on the subject. Children in kindergarten were encouraged to draw pictures of airplanes. Eight and ten-year-olds built models and rushed to the country on weekends to fly them. Model meets were held in almost every town and village in the Reich.

Every ridge in Germany which faced into the prevailing winds was blossoming into a full-fledged, man-carrying soaring school. To see the movement at its peak, it is necessary to get slightly ahead of the story—after the advent of Hitler. Then I stood on a hillside not far from Dresden and saw more gliders than I had thought were in all Europe.

Patriotic Gliding

If our biggest annual American gliding meet puts twenty gliders into the air at one time it is a big afternoon. And here were at least sixty lined up waiting their turn at the launching device.

And this was not a meet! It was a routine school day.

Nearby was a soaring-plane factory with at least a hundred gliders on the assembly line. Others were finished and awaiting tests. Groups of serious-faced young students listened to instructors explaining the theory of flight. Classrooms full of young men studied design and construction. The actual flying course was divided into two periods of five weeks each, later changed to three periods of four weeks. Final graduation even required qualification in blind soaring.

"Whose design is this?" I asked, pointing to a particularly sleek-looking soaring job.

(Continued on Page 38)

DIVE BOMBERS

What are the secrets of the Stukas that pave the way for the blitzkrieg? How are the Allies and the United States equipped with planes of this type? An expert gives you all the answers

BY FRANK TINSLEY

(Noted Authority on Aircraft Design)

BEHIND A SWARM of plunging, spitting, lightning-fast dive bombers Hitler's blitzkrieg has ploughed a bloody furrow across Belgium and northern France. A trail of ruined roads, uprooted rail lines and wrecked and smoking towns lie in the wake of this deadly assault.

Acting as a new and terribly potent form of winged artillery, the German Stukas blasted a road for their mechanized columns, bombing Allied troop concentrations, supply trains and fear-crazed refugees with ruthless impartiality. Never before has a war-weary world experienced such a destructive and ghastly form of military terrorism.

One of the many unexplained factors in the success of the Nazi blitzkrieg was the apparent failure of French and English army leaders to prepare an adequate defense against the dive bomber. Their failure could be excused if the German Luftwaffe had sprung some new and utterly unexpected form of attack. This, however, was not the case. Contrary to popular belief, the capabilities of the dive bomber and dive bombing advance guard tactics have been understood and appreciated by far-sighted aviation experts for many years.

From its very inception the German air service was known to have shown a particular interest in the dive bombing technique. When Hitler's secret aerial preparations culminated in a bold, public parade of his new Luftwaffe, dive bombers were prominent among the types displayed.

German Heinkels and Ju-87s were extensively employed in the Spanish civil war, where they undoubtedly provided a major contribution to the final collapse of the Loyalist defense. The Stukas participated in the hard fighting on the Ebro front and later in the Catalonian offensive. There they tested the newly created German tactic of harassing the enemy rear areas, spreading panic and confusion among the Loyalist militia, softening them up for impending tank attacks.

In the final phase of the Spanish conflict German and Italian dive bombers wreaked havoc along the Mediterranean coast, bombing ports and ships with deadly effect. Valencia, Tarragona and Barcelona were cut off from the sea and mercilessly pounded. Docks and waterfront facilities were destroyed and civil populations terrorized.

In effecting a sea blockade, the Stukas proved their potency against surface ships by sending numerous merchant vessels to the bottom. One pilot is said to have accounted, single-handed, for three large steamships off Tarragona, each time securing a direct hit.

Tested in Poland

In Poland the preferred targets were concrete forts, airdromes, road crossings and bridges behind the lines, railway stations, staff headquarters and other positions and fortifications which otherwise would be practically unassailable.

It was found that a well-placed 500-kg. bomb was sufficient to make a crater which would paralyze traffic even on a modern road. In a country like Poland, where the movement of troops was largely dependent upon road transport, the Nazi Stukas proved terribly efficient in wrecking communications. One 500-kg. bomb, dropped on the track in front of a speeding armored train, derailed every car and tied up the entire line.

The German Junkers Company, manufacturers of the famous Ju-87 dive bomber, has issued an account of the employment of their machines in Poland. In the entire campaign, they state, there was not a single instance of failure on the part of Stuka squadrons to respond to a call owing to engine or plane trouble.

The Luftwaffe soon abandoned the practice of sending fighters along to protect the Stukas. The dive bomber crews felt that they were able to take care of themselves against enemy single-seaters. A number of Polish fighters were downed by the Junkers ships, among them being the first Polish single-seater to be defeated.

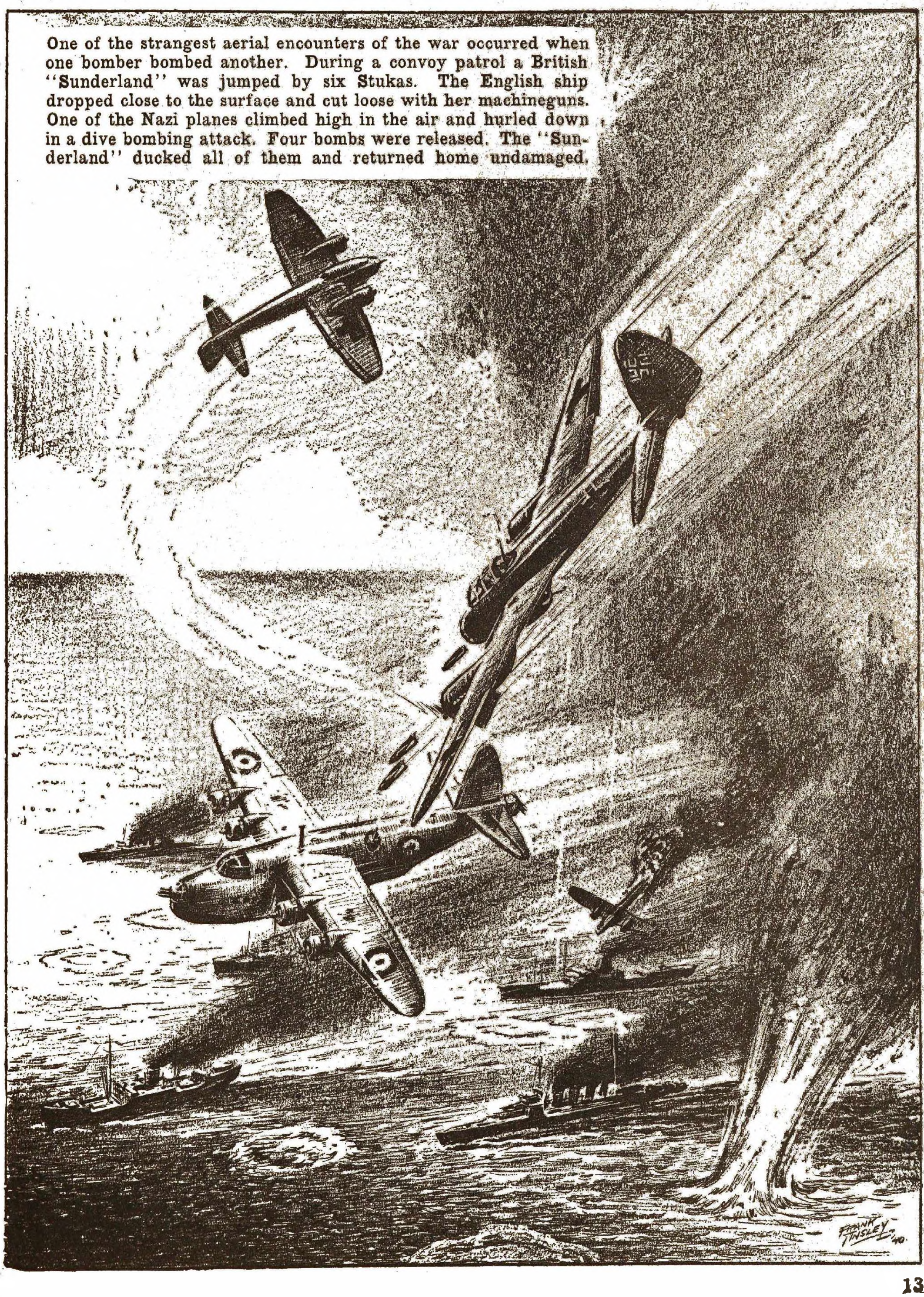
There were some remarkable instances of badly shot-up machines making safe landings. In one case, a landing-flap was almost completely shot away. In another an anti-aircraft shell passed through a wing, ripping a hole nearly two feet in diameter in the upper surface. A second projectile tore off the ship's fin. In spite of the damage, the crippled machine got home.

The invasions of Denmark and Norway were simply repetitions of the Polish pattern. Allied forces, landed around Trondheim, were

(Continued on Page 43)

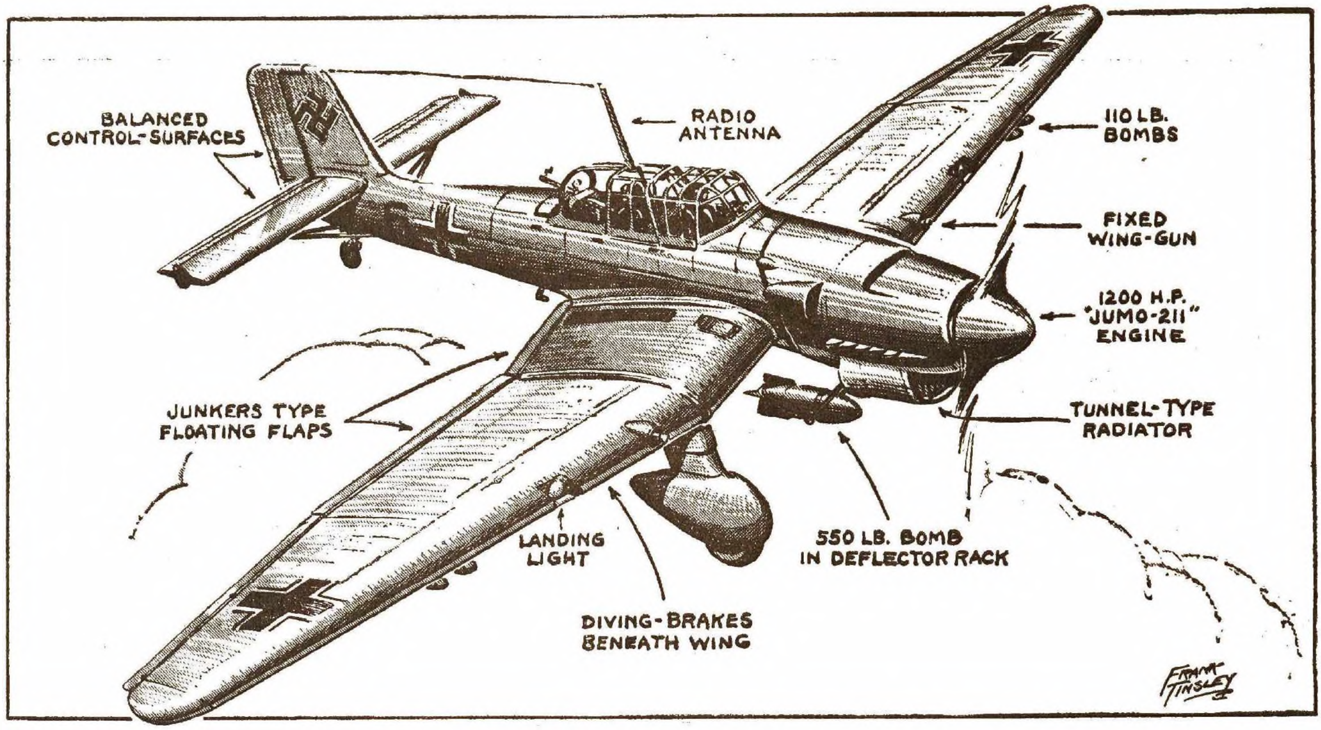
Portfolio of War Planes

By FRANK TINSLEY

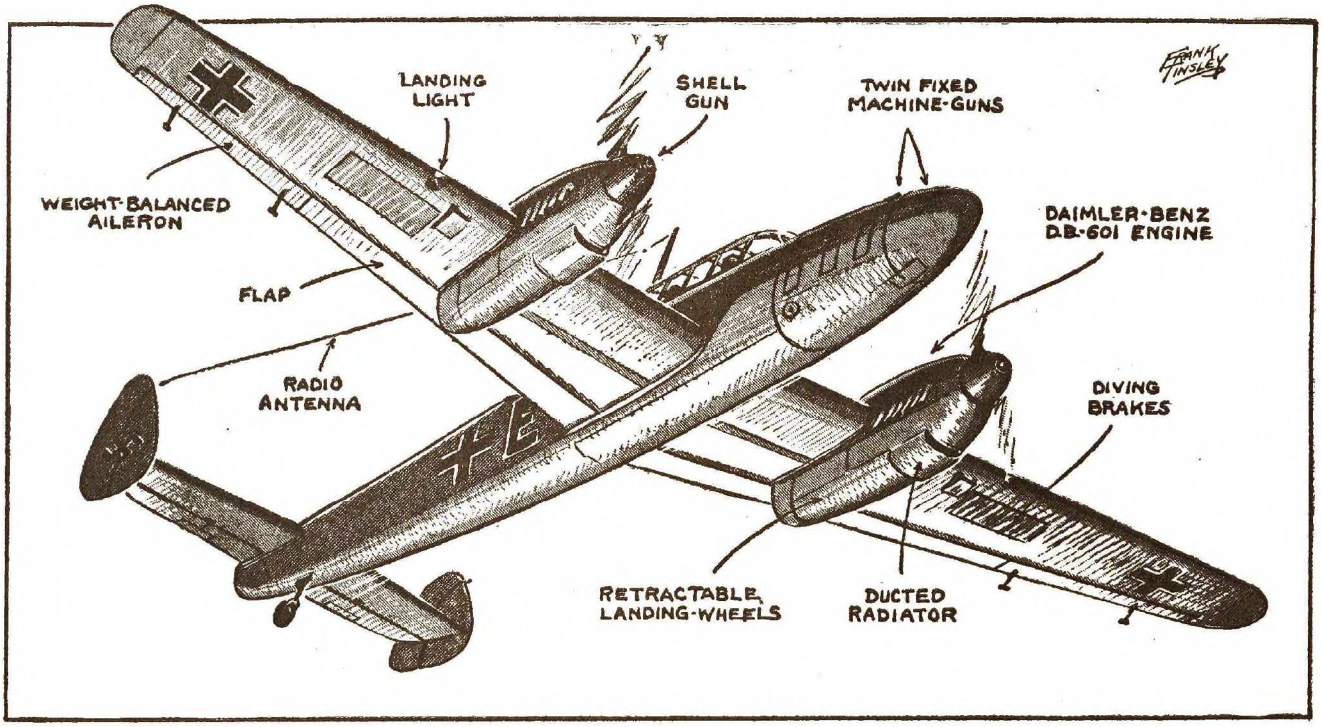


One of the strangest aerial encounters of the war occurred when one bomber bombed another. During a convoy patrol a British "Sunderland" was jumped by six Stukas. The English ship dropped close to the surface and cut loose with her machineguns. One of the Nazi planes climbed high in the air and hurled down in a dive bombing attack. Four bombs were released. The "Sunderland" ducked all of them and returned home undamaged.

JUNKERS Ju-87 — MESSERSCHMITT-110

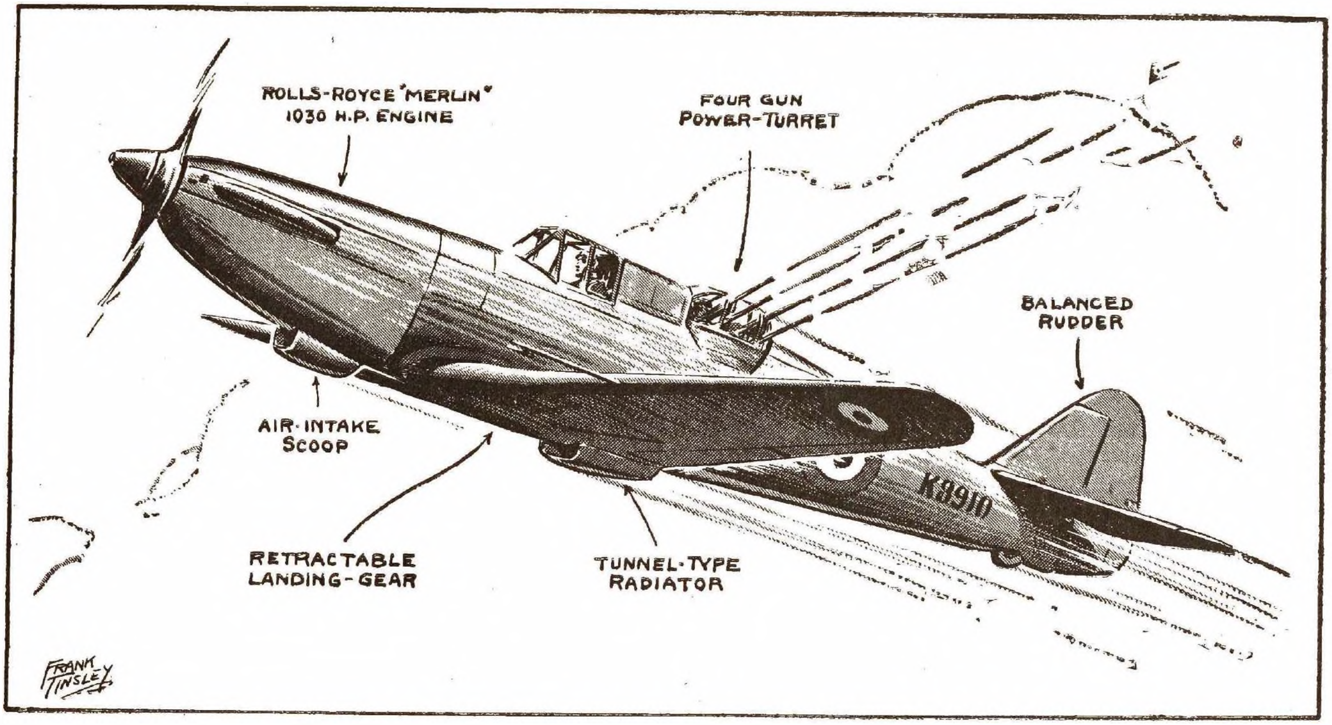

BALANCED CONTROL-SURFACES
RADIO ANTENNA
110 LB. BOMBS
FIXED WING-GUN
1200 H.P. "JUMO-211" ENGINE
JUNKERS TYPE FLOATING FLAPS
TUNNEL-TYPE RADIATOR
LANDING LIGHT
550 LB. BOMB IN DEFLECTOR RACK
DIVING-BRAKES BENEATH WING
FRANK TINSLEY

While a comparatively old model (the prototype appeared in 1937), the Ju-87 single-engined dive bomber is the best known of all the Stukas that blasted the road for the German Army through the lowlands and toward Paris. Largely responsible for the collapse of both the Spanish Loyalist and Polish forces, the Stukas further demonstrated their deadliness in France. Single bombs of either 550 or 1,000-pound size are cradled in a deflection-type rack beneath the fuselage. A secondary battery of four 110-pound bombs is carried beneath the outer wing panels. Three machineguns are provided for defense and ground-strafing.

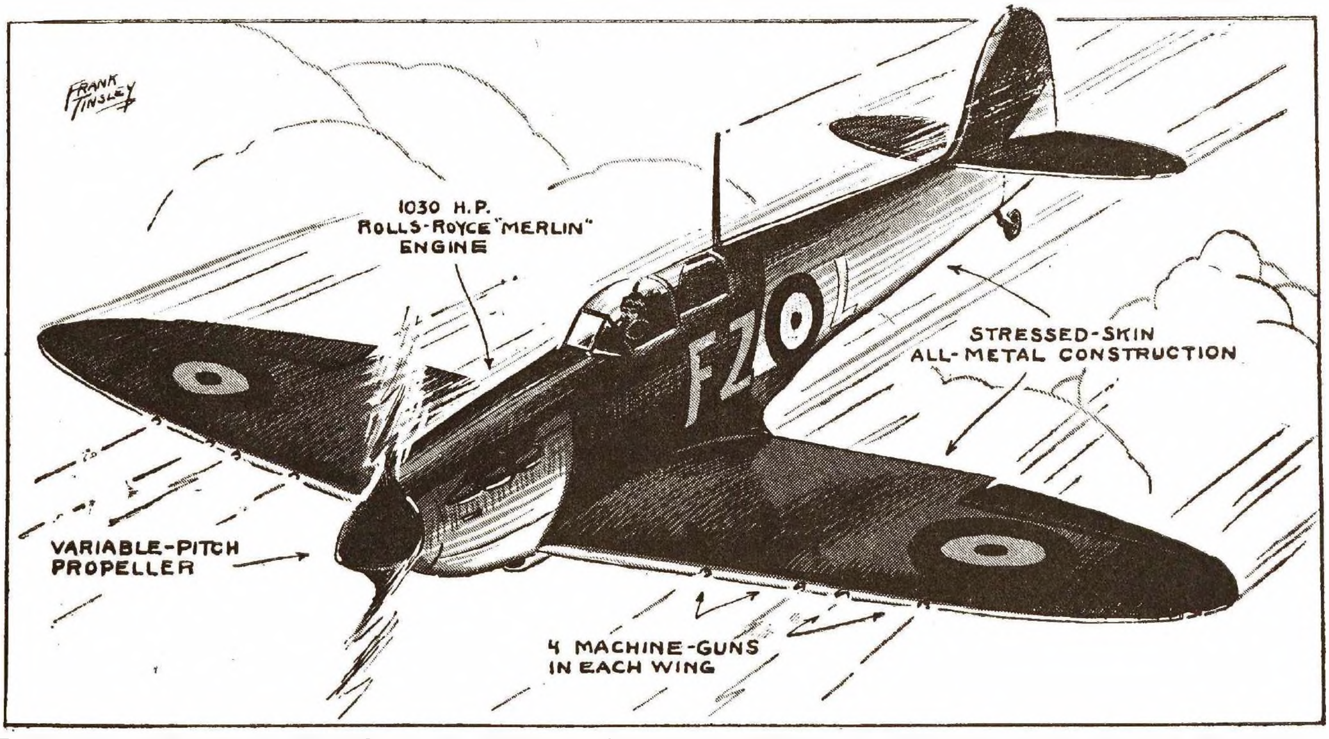

FRANK TINSLEY
LANDING LIGHT
SHELL GUN
TWIN FIXED MACHINE-GUNS
WEIGHT-BALANCED AILERON
DAIMLER-BENZ D.B.-601 ENGINE
FLAP
RADIO ANTENNA
DIVING BRAKES
RETRACTABLE LANDING-WHEELS
DUCTED RADIATOR

Germany's answer to the successes of the British "Spitfires" against Nazi bombing planes is the new long-range, twin-engined Messerschmitt-110 escort-fighter. Armed with a pair of shell guns and from three to five machineguns, this formidable two-seater has been nicknamed the "Destroyer." The ship had its first try-out in the Norwegian campaign, and proved its flexibility and speed to the satisfaction of the blitzkrieg pilots. The Messerschmitt-110 obviously is intended for the protection of Hitler's bombing squadrons in raids on the British Isles. A still newer version of the ship, stressed for dive bombing, has just appeared.

"DEFIANT" — SUPERMARINE "SPITFIRE"

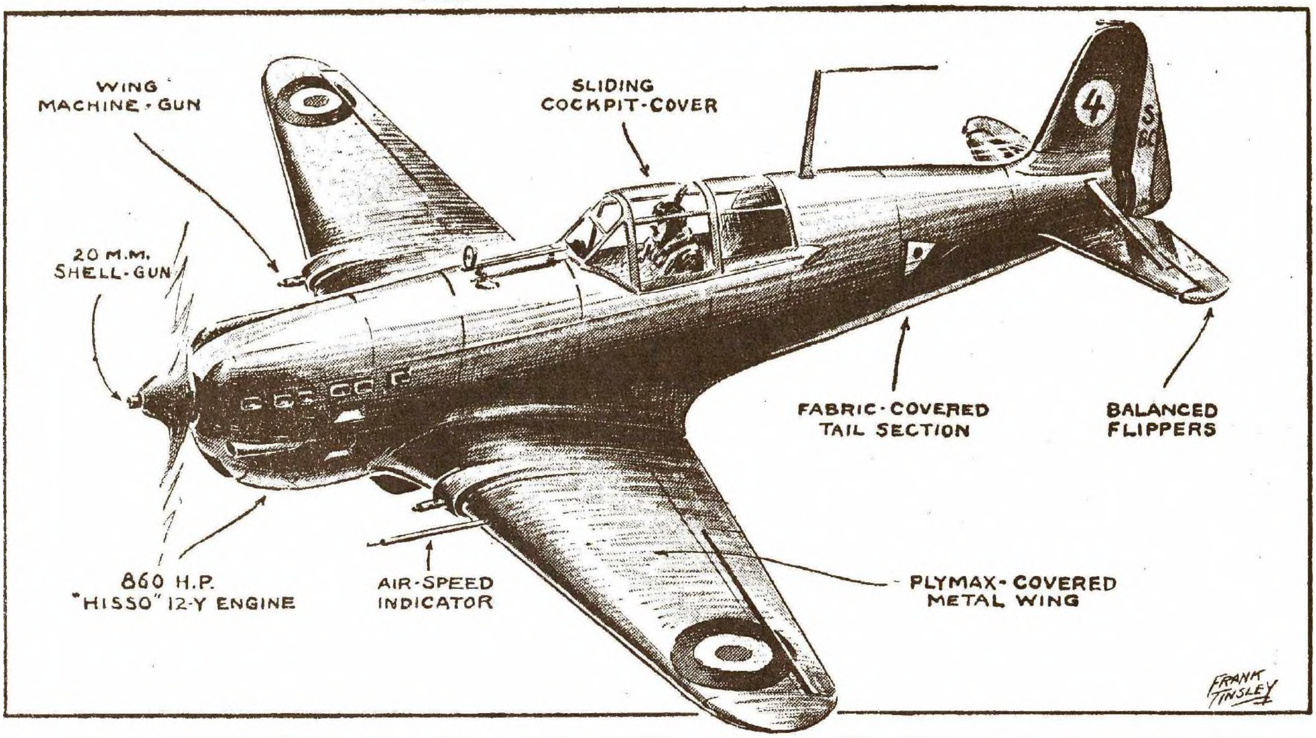

ROLLS-ROYCE "MERLIN" 1030 H.P. ENGINE
FOUR GUN POWER-TURRET
BALANCED RUDDER
AIR-INTAKE SCOOP
RETRACTABLE LANDING-GEAR
TUNNEL-TYPE RADIATOR
K8910
FRANK TINSLEY

The recently unveiled Boulton and Paul "Defiant," a two-seater fighter, has been called Britain's "mystery ship." Primarily intended for bomber escort duty, the "Defiant" is fitted with the latest model Rolls-Royce "Merlin" engine and is armed with an electrically operated power turret mounting a formidable battery of four machineguns. This novel arrangement permits a heavy broadside fire to be directed against Nazi raiders while the fighter still remains in formation with its convoy. Exact details on the performance of the "Defiant" are still secret. However, neutral observers give the ship a high rating.

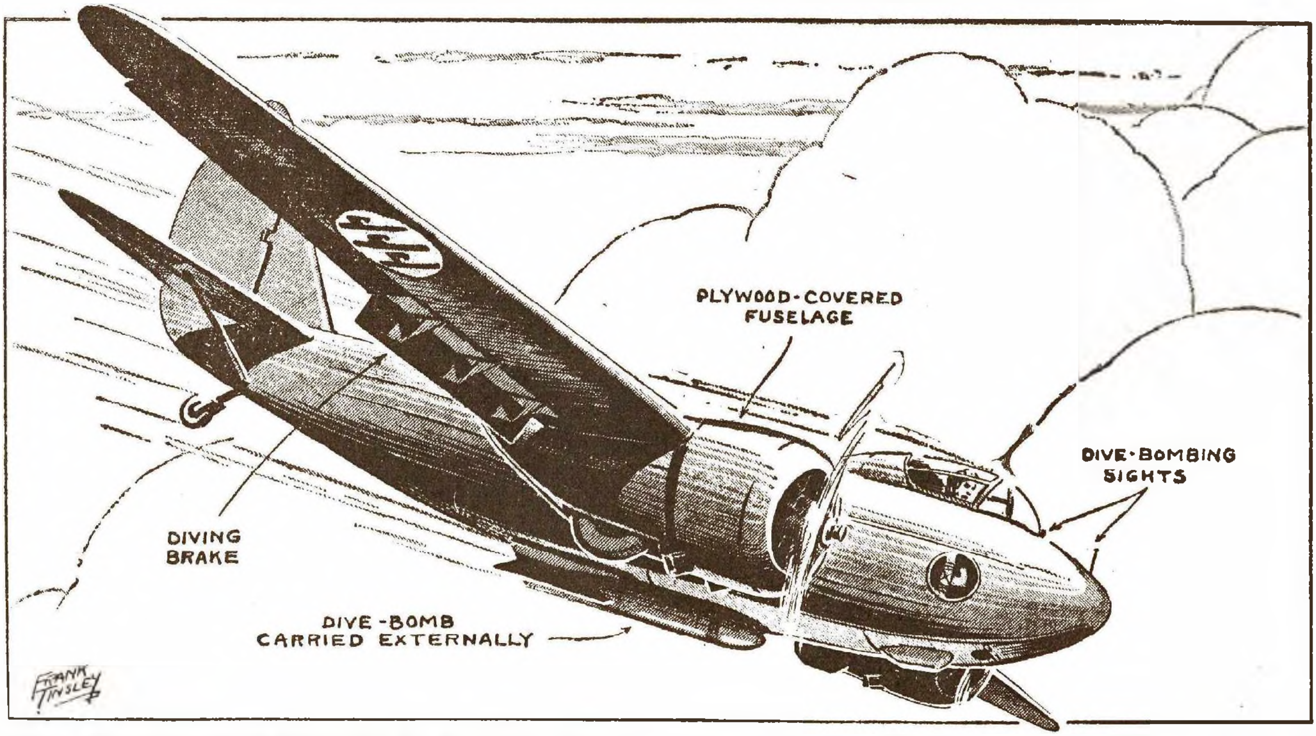

FRANK TINSLEY
1030 H.P. ROLLS-ROYCE "MERLIN" ENGINE
FZ
STRESSED-SKIN ALL-METAL CONSTRUCTION
VARIABLE-PITCH PROPELLER
4 MACHINE-GUNS IN EACH WING

England's aptly-named "Spitfire," an eight-gun interceptor-fighter, is still king of the air and the terror of Nazi pilots. Fastest (376 m.p.h.) single-seater now in service in large numbers, the "Spitfire" has proved docile enough for night as well as day fighting. The ship is deadly against bombers. It competed with its teammate, the "Hurricane," in downing scores of Nazi raiders during the early months of the war. By February 22 of this year—the latest date when exact figures were available—a total of forty German planes had been destroyed off the British coast, with a loss of but one "Hurricane."

MORANE—SAVOIA-MARCHETTI S. M. 85

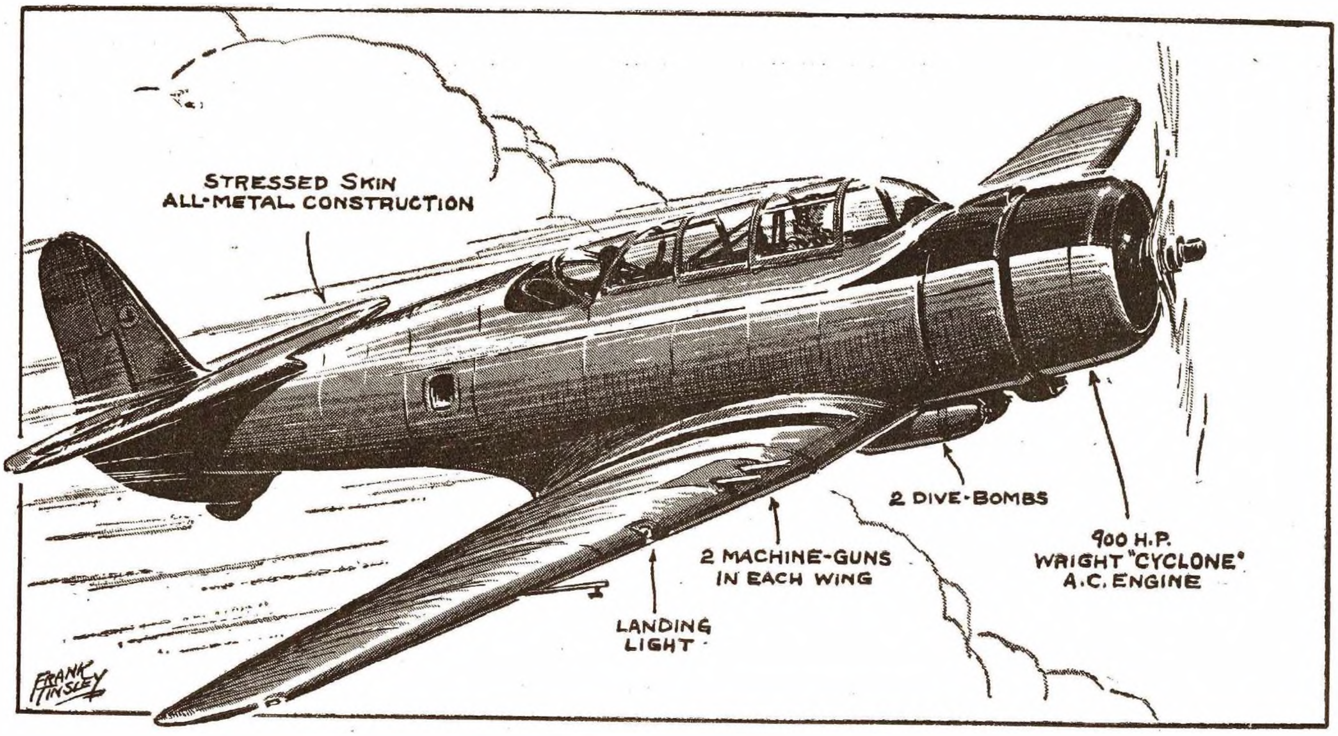

WING MACHINE-GUN
SLIDING COCKPIT-COVER
20 M.M. SHELL-GUN
FABRIC-COVERED TAIL SECTION
BALANCED FLIPPERS
860 H.P. "HISSO" 12-Y ENGINE
AIR-SPEED INDICATOR
PLYMAX-COVERED METAL WING
FRANK TINSLEY

The type of French fighter which thus far has achieved greatest distinction in the war is the Morane-Saulnier M.S. 406-CI. This single-seater is of composite construction, designed for rapid mass production. Its Plymax covering consists of thin plywood, faced with aluminum. The 20 mm. Moteur cannon, mounted between the cylinder banks of the engine, is of the "long" type, having greater range and velocity than the usual short shell gun. Chatellerault machineguns in the wings complete the armament. The M.S 406 has proved considerably more maneuverable than the German Messerschmitt.

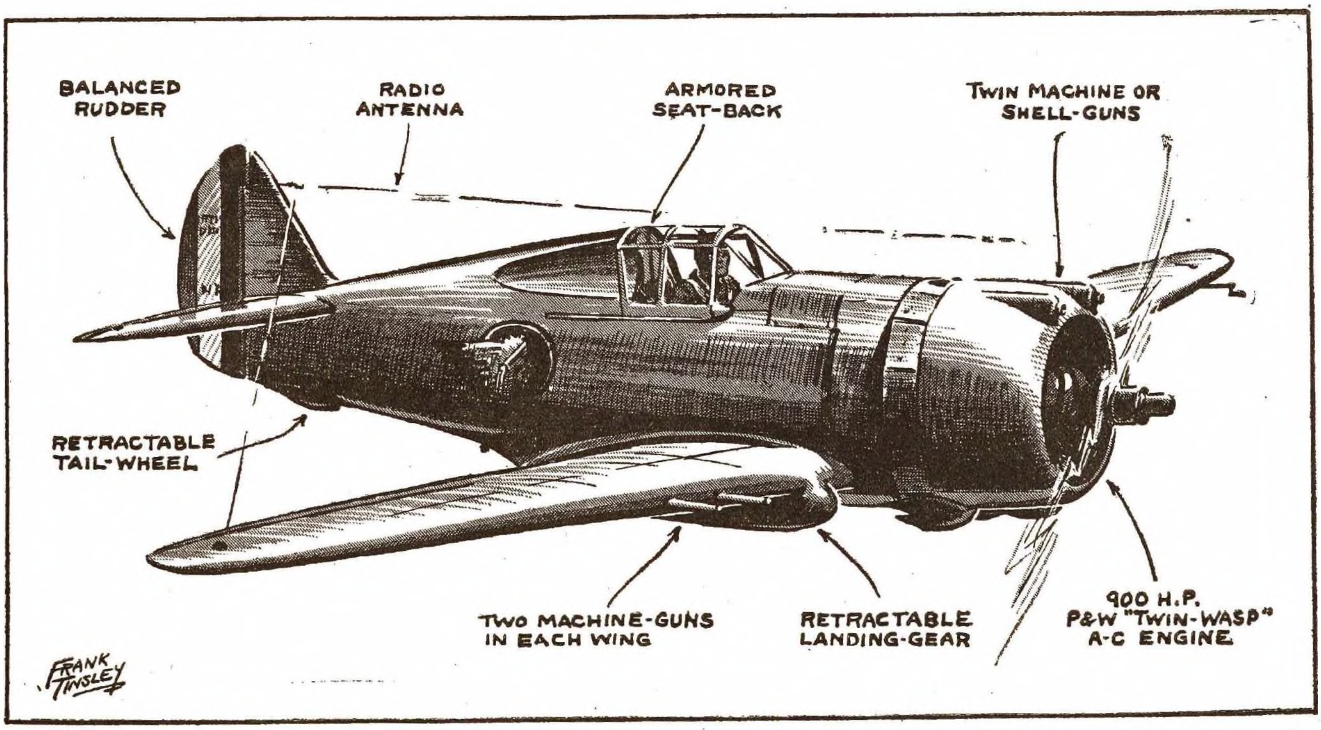

PLYWOOD-COVERED FUSELAGE
DIVE-BOMBING SIGHTS
DIVING BRAKE
DIVE-BOMB CARRIED EXTERNALLY
FRANK TINSLEY

How well prepared is Mussolini in the air? How much power can he unleash against the Allies? One indication may be seen in this Savoia-Marchetti S.M.-85. Following the latest twin-engine design formula, this model is considered to be the most modern European dive bomber now in production—even more advanced than the Nazi Stukas. An extremely clean, high-wing monoplane, the S.M.-85 is intended for dual duty. Fitted with an internal bay for level flight bombardment, the 85 is also stressed and equipped for dive work. A number of these up-to-the-minute ships are in service with the Italian Air Corps.

VULTEE V-12 — CURTISS "HAWK"


STRESSED SKIN
ALL-METAL CONSTRUCTION
2 DIVE-BOMBS
900 H.P.
WRIGHT "CYCLONE"
A.C. ENGINE
2 MACHINE-GUNS
IN EACH WING
LANDING
LIGHT
FRANK TINSLEY

America has something in the way of dive bombers, too, as this form of attack has not been overlooked by the U. S. flying units. Our most recent dive bomber is the Vultee V-12. Powered with a 900-horsepower Wright "Cyclone" motor, this rugged three-seater hits a top speed of 287 m.p.h. and has a range of 2,650 miles. It is armed with two .30 caliber and two .50 caliber fixed machineguns, plus a pair of flexibly mounted .30's. Combining heavy armament with high speed, long range, and large bomb capacity, Uncle Sam's V-12 is probably the most formidable single-engine dive bomber in existence.


BALANCED
RUDDER
RADIO
ANTENNA
ARMORED
SEAT-BACK
TWIN MACHINE OR
SHELL-GUNS
RETRACTABLE
TAIL-WHEEL
TWO MACHINE-GUNS
IN EACH WING
RETRACTABLE
LANDING-GEAR
900 H.P.
P&W "TWIN-WASP"
A-C ENGINE
FRANK TINSLEY

The American Curtiss "Hawk" has been termed "obsolete" by some experts, and indeed it has been far outstripped by its new prototypes being turned out in American factories. Nevertheless, the "Hawks" used by French pilots have been cleaning up all comers on the Western Front. Rugged and extremely maneuverable, the U. S. fighter is highly esteemed by the Pilots de Chasse, in spite of its relatively low maximum speed (310 m.p.h). During the rather leisurely but continuous air skirmishing prior to the big drive, the "Hawk" definitely proved its superiority over the vaunted German Messerschmitt-109.

NAZI BOMBS OVER THE U. S.

Fighters from the plane carrier U. S. S. Enterprise fly over California. Will they protect us from invasion?

---BLUEPRINT FOR INVASION!

We are Not Safe from the German Hordes! The Fifth Column Is at Work Here, in South America and Mexico! Hitler Can Strike Quickly from Hidden Airports! Read These Alarming Secrets!

By MAJOR MARTIN MEDFORD
(Free-Lance Flier and Observer)

SPEED AND THE element of surprise is the very essence of victory in war today. This has been proved time and again during the conflict raging on the continent. Hitler and his Nazi hordes have swept through Czechoslovakia, Poland, Norway, Holland, Belgium and France with incredible and fantastic swiftness. Fighting Italy now, as well as Germany, the Allies are crying to this country for "airplanes and more airplanes."

Meanwhile America, whether she fully realizes it or not, is fighting a last ditch battle. And the last ditch is always a trap.

I know whereof I speak. For the past twenty-five years I have been an aerial adventurer. I have, as an aviator, participated in seven wars that have seen me bombing and machine-gunning "the enemy" in Russia, Germany, Spain, France, China and Mexico. You must grant, then, that the startling developments in Europe hold more than passing significance for me. Especially insofar as the United States of America is concerned.

During recent weeks many persons have found occasion to ask me: "Do you think this country could be invaded? After all, aren't we isolated by two oceans thousands of miles wide? Can't we stay out of this war if we want to?"

I have deliberately held my tongue. I don't like being referred to as shell-shocked, hysterical, punch drunk, or a war monger. Not to my face, anyway. So I am here taking refuge in the printed word.

And I say:

AMERICA IS ALREADY BEING INVADED!

While all eyes are centered on the battlefields of Europe, Nazi emissaries are already at work in the western hemisphere. This country is being prepared for the kill with the same deliberate preparation that preceded the fall of Poland, Norway and Holland, Belgium and France.

The fifth column has more than a toe-hold here. It already has a stranglehold!

My prediction is that the real blow, when it comes, will be struck from the air and from "South of the Border, Down Mexico Way."

In the mind of the average United States citizen of military age that song title conveys aromatic breezes, low-hanging stars and romance. He can't smell the gunpowder nor hear the drone of a myriad invading bombers and fighters—yet. I can.

I regard myself as more or less of an authority on Mexico, especially from the air. I have flown over nearly every foot of it, having not only fought in a couple of revolutions down there, but for a number of years having operated an air line of my own out of Monterey. That was several years ago.

Natural Landing Fields

Even then I was impressed with the great numbers of Germans in Mexico and the hatred that Mexicans bear for Americans, or "the gringo dogs," as they always refer to them. Thus it happened that I always found it more comfortable to spend my spare time in Monterey's German club. German citizens are the pillars of Mexican industry, so far as I have been able to determine.

As is perfectly apparent, Mexico is a nation that has always been torn asunder by internal strife. It is weak for that reason—the perfect set-up for an invader whose obsession is world conquest. Revolutions blaze up in Mexico for the strangest political reasons, and the peons have no clear idea of why they are fighting. All they know is that they are taking up arms on the side of such and such a general.

Another thing that has always impressed me about Mexico is its region known as the "Middle Valley," the vast semi-arid plains that stretch out, flat as a table, between the Sierra Madre range on the east and the Rockies on the west. More than once as I flew over that section I noticed the huge dried-up lake bottoms and have commented inwardly on what beautiful natural landing fields they would make. Those lake bottoms are as hard and as smooth as concrete.

And, mind you, they are less than 200 miles from the Texas border, in the vicinity of Torreon. They would make perfect air bases.

As for Mexico itself, it is woefully lacking in any type of aviation facilities. There is a good-sized airfield at Mexico City, of course—Balbueno Field. But what a pasture! There is scarcely a light on it, and I can safely say that there is not a complete kit of tools available on the entire field. It is worth an aviator's life to set his plane down there after dark.

The Mexicans, I am convinced, have no conception of first class aviation. An airplane always will be somewhat of a mystery to them. They are not mechanically inclined. They haven't the "feel" for delicate, sensitive machinery.

I will never forget the time I arranged the sale of ten brand new American-made planes for a certain revolutionary general. In his "army" were ten so-called Mexican aviators. They had been accustomed to risking their necks in old crates, so outmoded that when taking off they had to give the ships full right rudder so they wouldn't spin around in circles.

I flew the ten little "greaser" flyers to a field in Texas to pick up the brand new ships. Before permitting them to take off I did my best to explain certain intricacies of the new planes, especially that they wouldn't have to give the ships full right rudder in taking off.

They listened intently, but apparently my words didn't register. Seven of them cracked up trying to leave the field. Two more went into spins somewhere over Mexico. The tenth and last man reached his destination, but cracked the plane in landing. He was the only one who escaped with his life.

Ancient Aztec Roads

That anecdote may sound a little funny. It may also sound a bit irrelevant. I told it for a very good reason, however. It shows how simple a matter it would be for any nation to conquer Mexico in this era of blitzkriegs from the sky.

Take it from me, there is every reason to worry. Especially when you are aware that right in Mexico City Nazi flags are being offered for sale by street corner peddlers. The swastika is everywhere in plain evidence throughout Mexico at this very moment.

I remember flying one day over the mountains outside of Mexico City. As I looked down I noticed at one spot what appeared to be a huge viaduct, and at another what seemed to have once been roads cut right in the sheer face of rock mountains. They were overgrown now, and showed up clearly only in certain places.

When I arrived at Mexico City later on that night I found myself chatting at a bar with a German professor from the local university. Knowing that he was interested in archeology, I mentioned to him what I had seen from the air.

"Gott und himmel!" he exclaimed with the greatest excitement, "That must be the old Aztec water supply system, and the old Aztec roads for which we have been searching for years."

He went on to explain that the old Aztec roads were still believed to be in perfect condition, since they had been carved out of solid rock. Sometimes the excavations penetrated hundreds of feet into a mountain. Instead of tunnelling through, it seems, the Aztecs invariably made a cut, super-human as the effort must have been.

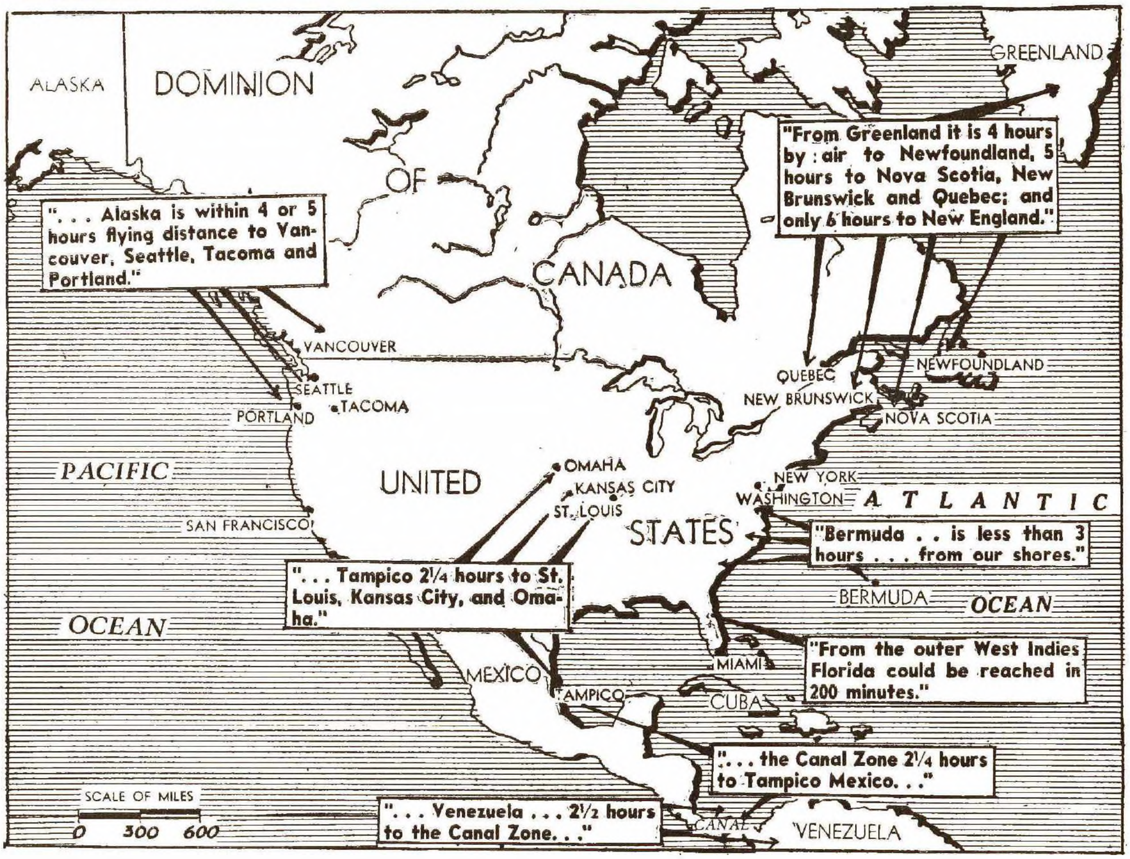
The German professor was anxious to be flown over the spot so that he could determine for himself what I had told him was true. When I told him I didn't have the time to make a special exploratory flight, he insisted that I give him the most explicit directions so that he might be able to find the roads himself.

That network of Aztec roads leads toward the "Middle Valley," hundreds of miles to the north.

How About South America?

While that is sinking in, let's turn our attention to South America. While the countries down there are avowedly pro-Ally, they are known to be hotbeds of anti-American and anti-Semitic Nazi propaganda.

A Nazi newspaper in Montevideo, La Linea Siegfrieda (Siegfried Line), only recently threatened in an editorial that Uruguay would "become another Scandinavia unless anti-Nazi utterances were checked."


ALASKA
DOMINION
OF
CANADA
GREENLAND
"From Greenland it is 4 hours by air to Newfoundland, 5 hours to Nova Scotia, New Brunswick and Quebec; and only 6 hours to New England."
". . . Alaska is within 4 or 5 hours flying distance to Vancouver, Seattle, Tacoma and Portland."
VANCOUVER
SEATTLE
TACOMA
PORTLAND
QUEBEC
NEW BRUNSWICK
NEWFOUNDLAND
NOVA SCOTIA
PACIFIC
OCEAN
UNITED
STATES
OMAHA
KANSAS CITY
ST. LOUIS
SAN FRANCISCO
NEW YORK
WASHINGTON
ATLANTIC
OCEAN
"Bermuda . . is less than 3 hours . . . from our shores."
BERMUDA
". . . Tampico 2¼ hours to St. Louis, Kansas City, and Omaha."
MEXICO
TAMPICO
MIAMI
CUBA
"From the outer West Indies Florida could be reached in 200 minutes."
". . . the Canal Zone 2¼ hours to Tampico Mexico. . ."
". . . Venezuela . . . 2½ hours to the Canal Zone. . ."
CANAL
VENEZUELA
SCALE OF MILES
0 300 600

Just how vulnerable is the United States? This map, prepared from flying distances which President Roosevelt cited in a recent preparedness speech, clearly illustrates our danger.

"I am Convinced that the Nazis Will Stop at Nothing . . . In a War for

Even more startling—Professor Hugo Fernandez Artuccio revealed, and supported his disclosure with documents, that Nazi agents are seeking to form a German bloc in order to pave the way for their recognition as a minority.

On the heels of the professor's disclosures came the round-up and arrest of numerous Nazi suspects in Uruguay. A search of their houses disclosed large supplies of arms—veritable arsenals. In particular, one large German company, which specializes in the construction of electric water power works in the interior, managed to smuggle quantities of arms in with the machinery it imported from the Reich.

Look at your map and you will see that north of Uruguay, across the rolling, sparsely settled prairie—which would offer no more barrier to an invader than the long, undefended coast—lies Brazil.

The southern part of that immense country is almost completely German. Between 1920 and 1930, the records show, more than 210,000 Germans entered the nation. Thousands have followed since then. As the Germans have done in Mexico, they now virtually control the exports there. They grow much of the coffee and cotton, own copper and nickel mines, chemical and textile factories.

The Deutsche Ueberseeische Bank has six branches in various important cities. There are at least fifteen big German newspapers and four powerful radio stations which broadcast Goebbels' propaganda. Investigation by Brazilian authorities revealed that in the German colonies in Santa Catherina, Parana and Rio Grande Do Sul, where German is the common language, residents were unable to recognize the Brazilian flag. In at least one school Hitler was believed to be the President of Brazil.

In Argentina a shrewd propaganda campaign being conducted by the Nazis is believed to cost in excess of $275,000 a month. In addition to numerous radio broadcasts from Berlin and frequent scattering of handbills boosting the Nazi cause, Germans have been pounding out their propaganda through the press. When the war started they already had the established Deutsche La Plata Zeitung, a morning newspaper, and later tried to buy into the afternoon field.

They failed, but they established another paper known as El Pampero, which is doing fairly well. It was German funds that established four reviews—Crisol, a daily; Esclavitud and Clarinada, weeklies, and La Maroma, a monthly. All are anti-British, anti-Semitic, anti-Communist, and anti-United States.

Fifth Column Obvious

These publications, let it be added, exist largely through the advertising of the Y. P. F., the nationwide oil and gas corporation which has been attracting attention to itself as a possible fifth column fountainhead because of the number of German technicians employed in key positions.

The President was not the first to warn of enemy air power.

Something else—even Argentina's army has for long been trained by Germans and staffed in part by officers who completed studies in Germany.

When Argentine authorities recently investigated reports of immigrant smuggling into the country, they discovered that 10,000 Germans had apparently come in illegally since January, 1939. They learned that the usual procedure in such cases of illegal entry was for the immigrants to arrive as "tourist" at Montevideo, Uruguay, and promptly get "lost."

In Buenos Aires a group of public spirited citizens were so alarmed by obvious fifth column activities that hundreds signed and contributed to the cost of a full page newspaper advertisement in which they urged Argentina to guard against "a destiny equal to that of Czechoslovakia, Poland, Denmark, Norway, Holland and Belgium."

The list of signers was headed by the name of former President Marcello Alvear, who now directs a national group seeking union of political factions for the solid-front defense of Argentina against "totalitarianism and aggression."

"For the first time since consolidation of Argentine indepedence," the advertisement read, "our sovereignty may be jeopardized by foreign lust . . . If the United States, with its immense power, has recognized and is taking extraordinary precautions, it would be foolish on our part to continue denying this danger."

The same conditions prevail throughout virtually all of the South American countries. Ecuador, during a recent investigation of fifth column activity, awoke one morning to the realization that her entire air force was staffed by Germans.

Bogota, Colombia, was the scene of similar activity when authorities uncovered a small but well-knit Nazi fifth column organization functioning there. At San Jose, Costa Rica, government officials discovered a large cache of arms which were believed intended for shipment to Panamanian rebels. The cache contained thousands of dollars worth of rifles, machineguns, munitions and bombs.

In one South American country police rounded up scores of German "hoboes" who, when searched, were found to have in their possession large sums of money as well as maps of the country's defenses and "compromising letters."

You think conditions are pretty bad in South America? All right, now let's take a look at what's

World Conquest Results are Obtained by Extremes, No Matter How Horrible!"

going on in the United States in the way of undercover fifth column activities.

Trouble at Home

While a lot of sincere and ostensibly intelligent persons all over the country were exclaiming, "Let's not permit war hysteria to turn us into a nation of witch hunters," Adolf Hitler's special emissary, only a few weeks ago, came to the United States and was living right in New York City under an assumed name.

Shortly after his arrival he left for Washington for the announced purpose of conferring at the German embassy on German-American relations. That, of course, was not so alarming.

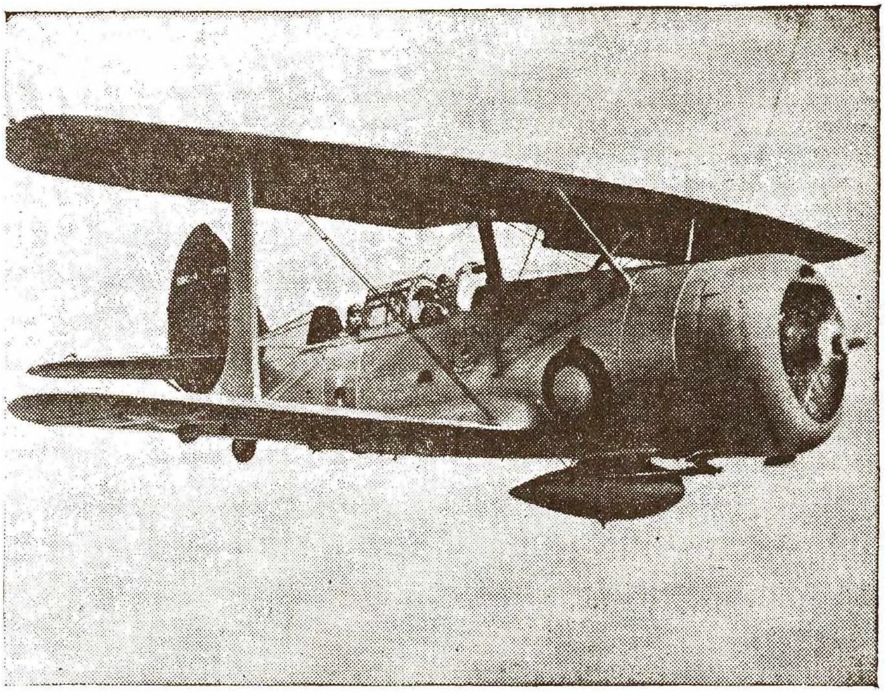
What was suppressed, however, was that this special Nazi emissary was called the head of the fifth column in the United States. And in spite of that, he had innumerable conferences with the executives of big corporations and received an automobile as a gift from one of them.

It was announced in one quarter that his purpose in coming to this country was primarily to make efforts to buy American planes for the Reich and to promote a loan for reconstruction work in Europe after the war. Only American complacency would permit such a thing as an unchaperoned visit by a man who is heralded as a special envoy of Hitler. And especially when such a man enjoys the friendship of American industrialists.

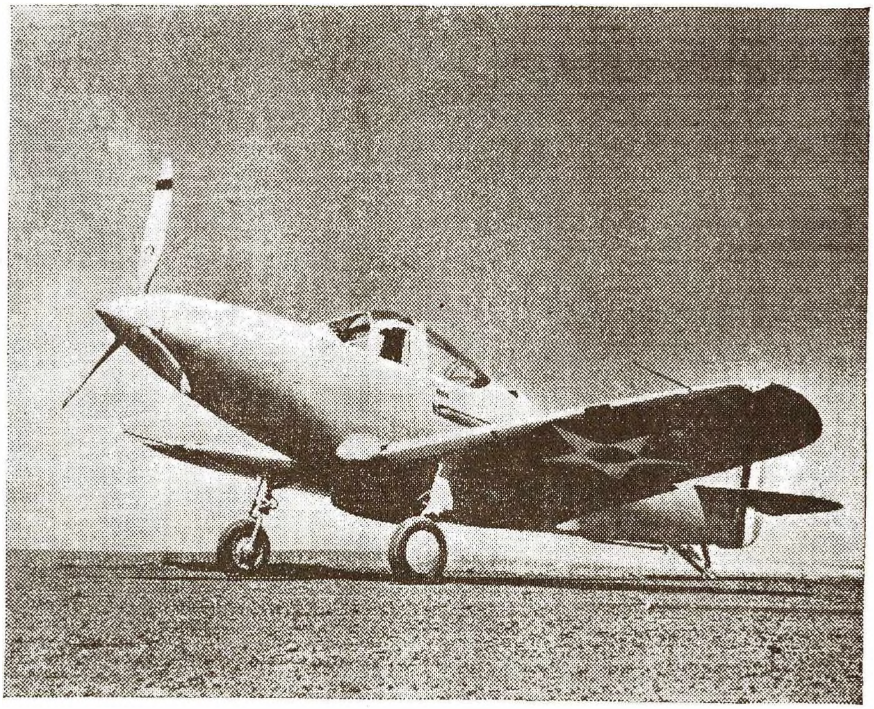
It seems obvious that there are still American captains of industry who must sympathize with Hitler. This, to my mind, seems much more serious than all the fifth column troubles of South America combined.

Meanwhile, still secure in the thought that they are isolated by two oceans, Americans are only mildly aroused when it is admitted by U. S. Army officials that we are far less prepared to resist a blitzkrieg than was Poland. We lack the number of trained soldiers that even little Poland possessed.

The recent, almost laughable, war games in Louisiana disclosed just how poorly trained our Army is. The soldiers, instead of marching to their objectives, tried to hitch rides on trucks. The officers, it was admitted by high Army officials, showed a deplorable lack of tactical experience. More than one photograph came out of Louisiana showing an Army tank bogged down in a swamp that appeared to be only ankle deep.



A large number of these new, highly maneuverable **Curtiss SBC-4** dive bombers have recently been added to the **U. S. Navy's** battle force.



The XFL-1 all-metal, low-wing monoplane, a single-seater fighter with armament mounted in the nose, has been perfected for Navy service.

Two years ago during war games at Plattsburg, N. Y., participated in by National Guard units, an entire regiment became completely lost. Even the officers didn't know where they were. Another regiment was captured in its entirety by "the enemy" when officers forgot to send out advance guards and reconnoitering units.

U. S. Wide Open

Our Army and Navy air forces contain many more planes than Poland had. As much, however, cannot be said for the number of trained pilots.

In addition, the type of planes and the tactical training necessary to give constant support to troops on the ground are entirely lacking.

As is already perfectly obvious,

the present war to a large extent is being won from the air. Nazi Stukas drop from four miles up, in a matter of seconds, to lay their nest of eggs and zoom again to safety before even the most rapid ground fire can center on them. Nazi Heinkels and Messerschmitts, spitting a hail of leaden death from their machineguns, pour terror into ground troops. Massive transports swoop low to drop parachute troops in rear areas.

The air arm of Germany has revamped ground tactics in war. It carries out the World War missions of cavalry and field artillery. It is carrying the Nazi war machine across western Europe—and toward the western hemisphere.

American military men are still not very seriously aroused. While all this is going on they cannot even make up their minds whether to choose the Garand or the Johnston rifle for Army use.

The United States is wide open for an invader from Alaska to Florida. Coastal defenses are ancient and outmoded for the most part. The fleet is currently stationed in the Pacific in order to keep a watchful eye on interests in the East Indies which have for long been eyed hopefully by imperialistic Japan.

As for the Panama Canal—until a few years ago Army officials were relying on a defense setup that was designed to protect that throbbing artery of trade and commerce against the operations of airplanes flying at eighty miles an hour from points little more than 200 miles distant and carrying not more than 1,000 pounds of bombs. The lethal loads in those days could be delivered with somewhat questionable accuracy from an altitude of not more than 5,000 feet.

Today defense plans must be revamped to contemplate an airplane approaching the canal at a speed of 250 miles an hour from a point 1,000 or more miles distant. This same airplane will be able to unload from two to five tons of bombs from an altitude of 25,000 feet, getting at least one hit out of three on a target no more than 500 feet square. Whereas the old time planes were necessarily limited to land bases, the modern sky speeders can operate efficiently from airplane carriers far at sea.

The President's Warning

With its pitiful lack of defense the United States of America could be attacked from the North, South, East or West. Should Britain lose her fleet—nothing seems impossible these days—and the United States should rush her battleships to defend the Atlantic, the Pacific would be left wide open.

We haven't a Navy large enough to patrol and defend both oceans at the same time. Our air force—while strenuous efforts are now being made to step it up to war time capacity—is sadly inadequate as compared with that of warring nations.

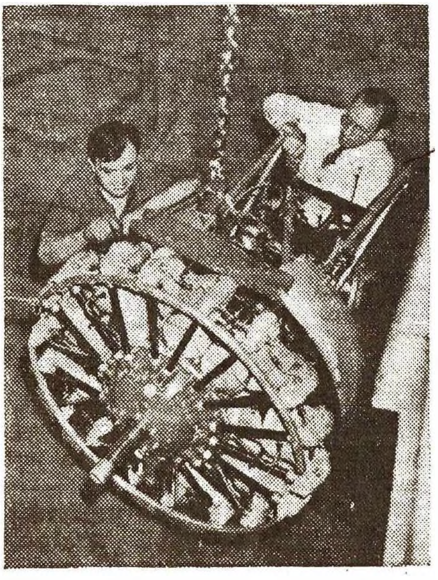
Modern war is so advanced that it permits attacks to be made at speeds ranging from 200 to 300 miles per hour, and more.

This, in turn, brings the Azores, 2,000 miles away, to within a few hours' flying time of the United States. Greenland is only four hours by air to Newfoundland, six hours to New England. The coast of Florida is but a little more than three hours' flying time from various bases that could be set up in the West Indies. If Bermuda fell into hostile hands it would be but a few hours removed from our shores. And New York City has but a pitiful battery of small caliber anti-aircraft guns to defend its teeming harbor.

Again, Alaska, the tip of which virtually connects the western and eastern hemispheres, is but a few hours' flying time from the thriving cities on the west coast.

South America is likewise open to air attack from islands off the coast of Africa, 1,500 miles distant, as President Roosevelt so recently pointed out. It was he, in a radio address, who made it clear that:

". . . Modern planes starting from the Cape Verde Islands can be over Brazil in seven hours . . . And Para, Brazil, near the mouth of the Amazon River, is but four flying hours to Caracas, Venezuela; and Venezuela but two and one-half hours to Tampico, Mexico; and Tampico is two and one-quarter hours to St. Louis, Kansas City and Omaha . . ."



Mechanics give checkup to plane motor at a plant on Long Island.

Mitchell's Prediction

Almost two decades ago there were men in the United States who envisioned potential disaster far ahead.

One of these was General "Billy" Mitchell, American air force commander during the World War. He won for himself the title of "stormy petrel of the U. S. Army" when he campaigned so vigorously for a large, well-staffed and well-trained air force.

It was when he was inspecting Hawaiian air defenses in 1923 that General Mitchell recognized the wide-open threat to the defense of America's Pacific outpost through lack of adequate air defense. In numerous newspaper and magazine articles he predicted almost exactly what is happening in Europe today. He painted vivid word pictures of the United States being conquered from the air.

When General Mitchell declared publicly that air-power could and would sink battleships, he was promptly challenged by doubting Thomases in the Army and Navy. The result was that Mitchell, in 1923, flew sixty miles out to sea, dropped two 1,100 pound bombs on the captured German battleship, Ostfriesland, and sent her to the bottom within a few minutes.

He repeated this performance on a couple of outmoded and decommissioned Navy battleships off the Virginia Capes. Army and Navy men still refused to be impressed. The "stormy petrel" fought back. "Mossback" leadership in the Army and Navy, he charged, failed to see what air-power would mean in the future.

As a direct result "Billy" Mitchell found himself under charges by November, 1925, and by December, he was found guilty by an Army court martial. He was sentenced to suspension for five years, without pay or allowances. This was later cut to half-pay and allow-

(Continued on Page 41)

TRAINING THE

THE INSIDE STORY

SIXTY-FIVE SQUARE YARDS of service silk, its billowing folds drawn as taut as a drumhead, is adding new terror to what men in uniform call the art of war.

On the war-seared areas of Europe, death is riding an umbrella. It is quick death for the would-be conqueror on the march, and for defenders of the land which for centuries has known the tramp of cleated boots. As the cannonading in France echoed from the chalk cliffs of Dover, "umbrella men"—soldiers of the parachute armies—drifted down from the skies to destroy or to meet their own destruction. They were well-trained men, schooled in every device of modern science, for the art of war employs all the ingenuity that science can muster.

Here is the technique of the parachutists:

They drift down in the awful silence of the great spaces of that third dimension to which war has resorted. Rifles, pistols, machine guns, mortars and even light cannon are the weapons which they carry to project the ravages of battle far beyond the front lines.

In uniforms roughly resembling loose-fitting ski suits, and wearing steel-reinforced leather headgear much like "crash helmets," the umbrella men plunge headlong from the doorways of scores of great-winged transports a few hundred feet above the terrain.

Their chutes, worn on their backs, open automatically in response to a jerk from a rope which is fastened to a long guide-rail flush against the inside wall of the plane. The rope flips the back panel cover off the chute pack. To that panel is attached a snake-like length of adhesive threaded through the folds of the packed chute. As the jumper falls through space, the panel and adhesive come away, drawn clear by the airplane above, and the silken half-spheroid which is the jumper's aerial life preserver blossoms out. The first phase of the parachute attack is complete.

Dangerous Work

From a height of 400 feet a jumper requires only twenty-five seconds to reach the ground—even less if he is adept at pulling his shroud lines and partly spilling the air out of his canopy.

In that twenty-five seconds defending militiamen and volunteer riflemen can, and do, pick off the invaders as a hunter shoots ducks.

Parachutists at a Nazi training school march to a plane for take-off.

But numbers count, especially in lightly defended areas, and the survivors of the jump race toward a common point to form combat units for the work at hand.

That work may be of a "suicide" nature, the holding of a bridgehead for a few precious minutes, battling the enemy soldiers on an airdrome valuable to the landing of airplane-borne infantry, or sabotaging electric transmission lines. It may be the job of buttressing a sagging flank in a battle line, fighting an encircling maneuver, or savagely falling on a column of infantry in retreat. Or it may be manning a mountain pass, vital to the enemy's line of communication.

But the job is always dangerous, infinitely more dangerous than the tasks of infantrymen, artillery troops or even the pilots of observation planes, bombers and pursuits.

No soldier is more the lone wolf, with only his own courage, resourcefulness and split-second judgment to guide him, than the parachutist.

This will not be an argument for or against the parachute trooper on the grounds of moral, legal or military exigency. It will merely relate where the idea originated, how a famous British editor scoffed at it, and how it has been employed in the European war, and what it may portend for the future.

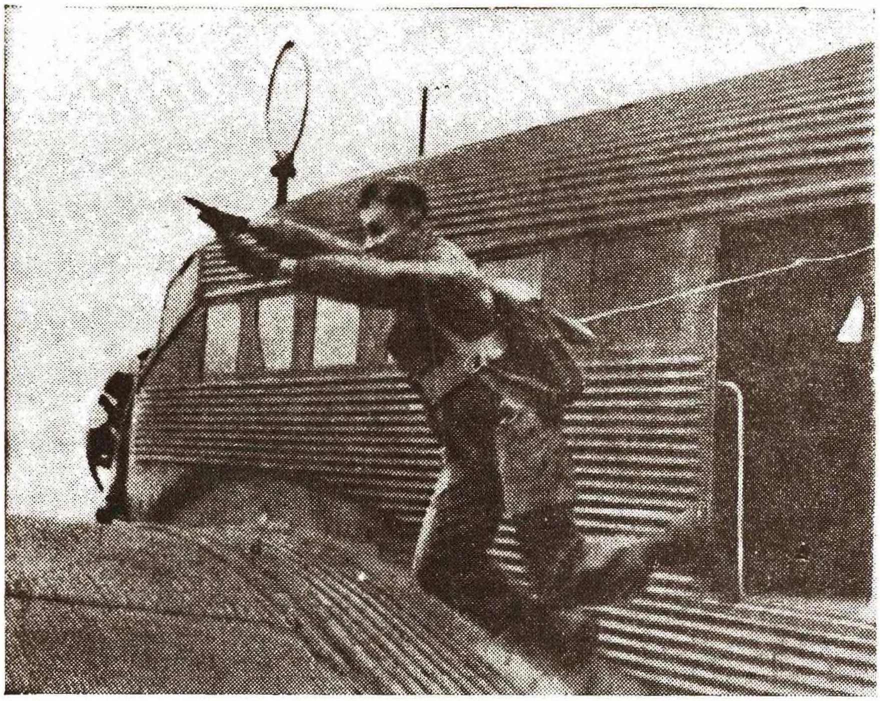
Certainly parachute attacks have their limitations, as Soviet Russia learned to its dear cost in Finland. Certainly parachute troopers depend on the elements of terror and surprise as much as on their weapons. Certainly parachute troopers, for maximum effect, must have the cooperation of a fifth column—enemies within the gates of an invaded nation. And certainly Germany was not the first of the world powers to recognize the value of sixty-five square yards of service silk in waging war which is geared to the speed of 400-mile-an-hour pursuits and 75-mile-an-hour motorized columns.

Of all the explanatory articles which have been written about German parachute tactics, none is a more flagrant violation of the truth than the statement that parachute attacks are the product of German ingenuity.

Germany merely adapted the tactic to its own use. But Adolf Hitler, always "the man in a

UMBRELLA MEN

BY BRETT INCE



One of the dread umbrella men leaps from a huge transport ship.

hurry," did a superlative job in that adaptation.

It was Hitlerian audacity which led German parachutists to attempt the capture of the Dutch Queen Wilhemina at the start of the march into the low countries. It was Hitlerian audacity which led to German frontal attacks from the water on land objectives by soldiery deposited in rubber boats by airplanes. It was Hitlerian one-ness of purpose which established parachute troop schools in the seized Czechoslovakia Sudetenland after the "Munich peace" of 1938 to permit the training to go on with a minimum of observation by outsiders.

Russia Started It

But it was in the United States and Russia that the heroic plan for mass parachute attacks was first conceived. Even today the Red Army has the world's most formidable force of parachute riflemen, drawn from a nation which has embraced aviation as the one certain arm of defense for a "fatherland" extending from Eastern Europe to the frigid waters of the North Pacific.

The Russians are reported even to have dropped horses by parachute experimentally.

From one end of the Soviet Union to the other, the youth of Josef Stalin for years have been learning the art of parachute jumping. They start by parachuting from jumping towers a hundred feet high. From that they progress to 200-foot towers, and to compressed-air "catapult guns" which shoot the jumper and his packed canopy high into the air for a simulated "jump" from a plane. Finally, they jump from high aloft.

On August 18, 1933, the Russians for the first time publicly demonstrated their aptitude for parachute jumping. That was at Kiev, during Red Army maneuvers. Foreigners were given a sample, a pre-view of what Stalin's soldiers might (and finally did) do with sixty-five square yards of silk and a dismountable machine gun.

Only sixty-two soldiers bailed out of a few army bombers, their chutes blossoming progressively against an azure sky, but the significance of the demonstration was not lost on the visitors. Yet military tradition is hard and fast, and outside the borders of the U. S. S. R. men with generals' stars on their sleeves looked for the most part with a bilious eye on the experiments of the Russian bourgeois army.

Caustic C. G. Grey, then editor of the British publication, The Aeroplane, wrote: "We doubt whether such tactics could be practiced in any civilized army." Grey has lived to see the day that parachute troops helped convert the low countries into a German protectorate.

The heart of the Soviet parachute "sport," identified so closely with national defense that sport jumping and military jumping are one and the same thing, is the Kosarev Central Aeroclub, in Moscow. There Soviet youth, by the scores of thousands, have journeyed to study the art, to be told that Russia's future lies in the air, and to have pinned on their blouses a tiny insignia which proclaims that they are no longer neophytes in the world of silken umbrellas.

Fully three years ago the Russians announced a project to establish a thousand jumping towers throughout the Soviet Union to train a minimum of 1,000,000 citizens to use parachutes. Even allowing for the boastfulness of the Russian temperament, fully half of those 1,000,000 Russian citizens must have earned their insignia by now.

Failure in Finland

It was not the idea which went awry in the Russian parachute invasion of Finland. It was the execution of it.

In the first place, the Russian parachutists were up against an army adept at what is known in America as "Indian fighting." The Russians jumped from too great a height, presented themselves as perfect sky targets, and paid the penalty in carnage among their numbers. At no time during the Finnish campaign did the Red Army use parachute troops successfully.

In the United States the parachute was a familiar device long years before the Army began its experiments with umbrella-born soldiers. Invented by Dr. Sebastian Lenormand in 1783, the parachute was first used for jumping in this country in the year 1912, and the ring-opening chute was brought here just after the World War by a Britisher who had the finger of death on him when he walked down the gangplank of an ocean liner in New York harbor. His device failed to open during a demonstration.

Perfected chutes, packed by men trained for the task, were worn by the flyers who inaugurated America's air mail service in airplanes of wartime vintage in 1919, and during the decade of 1920-1930 the growing membership of the Caterpillar Club testified to their usefulness.

It was in 1928 that United States Army "suicide squads," bailing out from 2,000 feet, introduced parachutes here for simulated wartime use. So far advanced was this country in military thought that light guns were dropped for the use of parachute troops in individual containers under their own canopies. A machinegun crew floated to earth at Brooks Field, San Antonio, Texas, to demonstrate a technique which, in this year 1940, has become a symbol for all the horror of modern aerial warfare.

Our Army has remained alive to the possibilities of the parachute. In May, 1938, during the northeastern seaboard maneuvers of the General Headquarters Air Force—the protective combat unit assigned to the defense of continental United States—one of the daily communiques related that "parachute riflemen" of a mythical enemy had landed and esconced themselves on an island off the Virginia coast. During army maneuvers last year in Texas a complete regiment of infantry was supplied briefly from the air with provisions and munitions dropped by parachute by a "supply train" of airplanes. The planes even dropped eggs—intact.

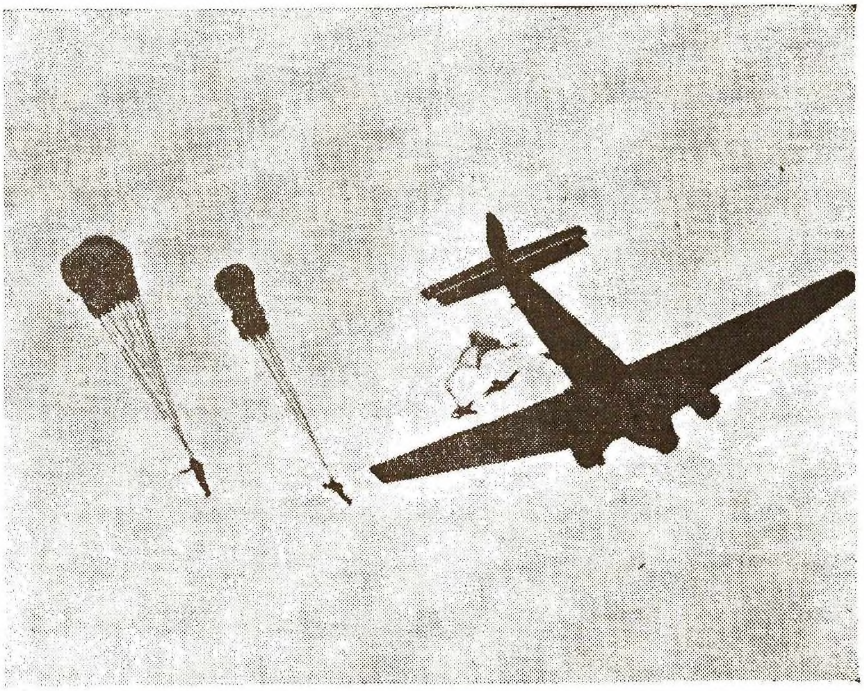
Allies Off Guard

Let it not be said that the Army Air Corps was blind to the use of the parachute even before Hitler began his march into the low countries. But until the gravity of the international situation began to make itself felt in the White House and on Washington's Capitol Hill, funds were not available to carry on the necessary experimental and tactical work in the field of combat by parachute.

Even now it is questionable how far America will go with parachute soldiery, because essentially parachutes are an offensive, not a defensive, weapon, designed to bulwark the strength of soldiers on the march into strange and forbidding country. And—this will bear repeating—parachutists to have the maximum effectiveness must have the cooperation of the fifth column.

Now let's turn to England and France, caught off-guard by the German "vertical envelopment attack" when Norway suddenly became the battleground in a revitalized war.

Air warfare, on a far different pattern than that ever dreamed of by the French general staff during the siege of Paris in the last century, was inaugurated when balloons were flown out of the beleaguered city successfully. Forty-six years later a Prussian lieutenant landed sixty miles behind the Russian front to dynamite the Kovno-Brody railroad line, and the evidence in the case tends to indicate that he was dropped by some sort of a crude parachute.



"Going down!" Parachutists closely follow one another in leaps.

By 1932 the French were using parachutes tentatively in their army maneuvers, and by 1936 they had opened a parachute school. In fact, two companies of parachutists were dispatched to Algiers, and the High Command announced a policy of attaching a company of parachutists to each regiment of its Army of the Air. By 1937 the French publication Les Ailes (The Wings) felt justified in criticizing the Air Ministry for a tardy start on parachute troop training. It would be years, said Les Ailes, before the French army could achieve the same results as those in Russia.

Significantly, the publication observed, "Parachutists should speak the language of the country they are attacking."

From 1937 to 1940 the French, characteristically, carried on an academic and useless discussion of the parachute tactic. Just as the French school of military thought veered over a period of twenty years from "L'Attaque, L'Attaque, Toujours L'Attacque" to the philosophy embodied in the $300,000,000 wholly defensive Maginot Line, so French militarists wavered uncertainly over the adoption of the parachute as an offensive weapon.

Meanwhile the Germans, with the realistic approach of a nation born to arms, were discussing the likelihood of outflanking the Maginot Line with the help of parachute troops.

The French Experiment

The Germans, apparently with well-documented accounts of French parachute training, related two years ago that 1,900 jumps, without accident, had been completed at the French training school at Pujaut-Avignon.

A year earlier German publications told the Nazi public that forty French soldiers, equipped with sidearms and machineguns, had jumped from service planes at Villacoublay during an air meet without accident. The French

(Continued on Page 46)

Jottings from the Cockpit

Allied Ace Is Killed

First genuine ace of the war on the Allied side was E. J. "Cobber" Kain, a strapping New Zealand youth, who shot down forty Nazi planes in eight months. He was awarded the Distinguished Flying Cross for gallantry in action. Twice he was shot down in flames, and he was wounded by shrapnel in his left leg and hand.

Like many flyers, Kain was a fatalist. Speaking to an American audience over the radio late in May, he cracked, "I don't think you'll be able to install microphones in the place where I'll be a few weeks from now!"

Just three weeks later he was dead. The official report stated he was killed in a flying accident while on duty, but not in action.

Kain's record of forty enemy planes in eight months put him high in the ranks of the air fighters of all time. Captain Eddie Rickenbacker, America's ace in the World War, knocked down twenty-six planes in fourteen months, and Baron Manfred von Richthofen, Germany's great fighter in the last conflict, bagged eighty Allied ships before he was killed in April, 1918.

Short and Sweet!

One day's hectic fighting was reported as follows by a Royal Air Force pilot to his commanding officer:

"Shot down three Nazi fighters and a dive bomber, jumped by parachute from my crippled Hurricane, swam until picked up by a paddle steamer, and landed at Margate."

Fought Young Mussolini

The distinction of having had a dogfight with Bruno Mussolini, son of Il Duce, is claimed by Captain Derek D. Dickinson, of Astoria, New York.

Captain Dickinson was one of the adventurous American birdmen who went to Spain to fly for fame and fortune. He fought on the Loyalist side for sixteenth months.

The encounter with young Mussolini, according to his story, took place over the Mediterranean on September 28, 1937. After some hot and heavy combat, the Italian turned tail and fled.

"I'm quite sure I shot him in the leg," declared Captain Dickinson.

Machines Too Good?

Is "pilot failure" responsible for most casualties in the air fighting in the second World War? Authorities connected with Wright Field, the U. S. Army Air Corps' testing ground at Dayton, Ohio, seem to think so.

Today's planes are so fast, and are so complicated in their operation, according to these experts, that they exceed human capacity for operation.

At a minimum, it is estimated from reports originating at the European front, for every four pilots killed as a direct result of combat, six are killed because their judgment became faulty or their bodies were unable to stand the strain.

What's the next step—robot pilots?

Stealing a Ride

At least one British pilot can be thankful today that there was so much confusion when the Nazis locked horns with the Allied forces in Flanders.

This ace was shot down behind the swift-moving German lines. However, with his commonplace coveralls and his countenance covered with oil, he could not be distinguished from the enemy troops swarming into the territory. Calmly and without challenge, he clambered aboard a Nazi tank. He rode for several miles toward his base, then got off and made his way on foot across country to the British headquarters.

Such a hitch-hike ought to get attention from Ripley!

Lincoln Air-Minded

Abraham Lincoln was one of the first Americans to become air-conscious.

After the firing on Fort Sumter in 1861, the noted inventor, Professor T. S. C. Lowe, went to the President and Secretary of War Stanton and urged that his exhibition balloon be used by the Union forces. Lincoln accepted the offer.

Later, at the Battle of Manassas, Lowe flew over the Confederate troops and was able to report accurately on their position. He made numerous other flights which helped the Union forces to win.

Bad Luck?

A man walking under a ladder, three cigarettes being lighted from a single match, a broken mirror, a black cat, the figure 13—all these symbols of bad luck are included in the coat-of-arms painted on the side of his plane by a devil-may-care New Zealander flying for England.

Fresh from an air battle over France recently, this pilot had an encounter with six German Messerschmitts, returned to his airport with his plane's wings riddled from bullets, gas tank leaking, gun sights gone.

Interviewed by a newspaperman, he quoted the inscription on his coat-of-arms:

"What the Hell!"

First Air Battle

The first aerial conflict did not occur in the war of 1914-1918, but in the Franco-Prussian war of 1870.

At this time, balloons were in use, largely for observation. A French balloonist, returning to Paris after carrying refugees, mail and dispatches to Tours, encountered a German balloon at 10,000 feet.

The German opened fire and the Frenchman responded. Neither gas bag was brought down, the Frenchman finally succeeding in breaking away and completing his journey to his besieged capital.

Another Richthofen

"The Red Knight," Baron Manfred von Richthofen, Germany's leading World War I air ace, evidently bequeathed a tradition of daring flying to another generation of German warriors.

Wolfram von Richthofen, cousin of the Kaiser's best war flyer, was in command of the bombing squadrons which raided Dunkerque in May.

Mistaken Identity

Mistaken identity was discovered in the nick of time by a Royal Air Force pilot officer. He had shot down a German bomber near Rotterdam, was returning to his base to refuel and take on ammunition. He spotted a couple of planes in formation and joined them, only to discover suddenly that the craft were Nazi Messerschmitts.

"Realizing my mistake, I climbed into a cloud and returned to my base," he said with typical British calm.

I SAW THE HELL

Destruction and death in Holland—will it happen in Britain, too? A vivid picture of blitzkrieg horror.

By MARTIN FISKE

American War Correspondent

A war zone mother and her children flee for safety amid smoking ruins.

CAN NAZI AIR POWER blast England into a quick defeat?

This question, far more than any military development in France, remains uppermost in the minds of every neutral diplomat and observer in Europe today.

On it hinges the outcome of the second World War. I have just returned from Europe. I have talked with diplomats and military men in Germany, France, Italy and England. The amazing thing about all these conversations is the comparative lack of interest in the great successes of the German Army.

To every intelligent person in Europe—and this includes Germany—all these military gains are of a secondary interest. The power of the airplane is the first consideration.

It was generally accepted that Germany would have tremendous successes on land. It was privately admitted long ago in French circles that the Republic would have to capitulate sooner or later.

The Nazi superiority in men and machines simply was too great. The French had to fight on a more traditional scheme — and in this conflict tradition has been ruled off the boards. Even aided as they were by a small British Expeditionary Force, the French troops didn't have a chance.

Undoubtedly the Germans sacrificed hundreds of thousands of men and expended great quantities of their mechanized equipment in the Battle of France. This may tell against them in the end.

For, at this writing, it appears that the war is far from over. Britain, defiant and desperate, has announced that she will fight on. She has the vast resources of her colonies behind her. And John Bull's island has been turned into one large fortress.

So the question every authority in Europe is asking now is:

Can Germany invade England by air?

If she can, she will win the war. If she can't she will lose the war—and the Nazis know this.

I can't answer the question that all Europe is asking, but I can give you a first-hand description of German bombing—a picture of destruction so deadly and so ghastly that it is almost inconceivable.

Nazi Planes Overhead

I arrived in Rotterdam on May 13th. The German armies were still pounding at the outer defenses of the Holland border, but Holland was already crumbling. She started crumbling the minute the blitzkrieg hit her. Not her armies in the field; but the very structure of her government, which in a large part was held and controlled by the now famous fifth column.

When this war is over and the facts of the fifth column in Holland are told, the story won't differ much from what happened in Norway. The only difference was that Holland had an army in the field

OF NAZI BOMBS!

This used to be her home—a photograph vividly depicting the human tragedy spread by German bombers.

and for three days was able, at terrific losses, to stem the onrushing Germans.

Then her lines cracked. They cracked in the rear rather than the front, and the great Nazi horde swept across dikes and through fortifications. On the third day they approached Rotterdam.

On May 13th, the city showed little evidence of the fight. The Nazis had bombed certain parts where military objectives were targets, but the greater section of the city seemed to be far away from the battle.

German parachutists were entrenched at the Wallhaven Airport, but that seemed far away from Hoog Straat, the main business thoroughfare. Shops were open as usual and the sidewalks were crowded with people.

Overhead German planes roared, but no bombs were dropped on the city proper. The war news was serious, but the populace still clung to hope.

That was May 13th. It wasn't much different on the morning of May 14th. In the afternoon the Nazi armies were closing in on Amsterdam and trying to encircle Rotterdam. Terrific artillery fire came from the Wallhaven Airport and the sound of bombs dropped on the attackers by the English echoed in the city.

At three in the afternoon I walked out of the Hotel de Maas and went toward the famous Coolsingel, the quiet, tree-lined street where the staid and aristocratic old homes stood.

What happened next came with such suddenness and such terror that nobody realized exactly what took place. There had been no warning, no intimation of what was coming—but as suddenly as a cyclone clouds a Kansas sky, the air above was dark with Nazi bombers.

The crowds on the streets looked up with nervous horror. I looked up with them. Overhead were a swarm of planes marked by the swastika. They were flying low, too low for the feeble anti-aircraft guns to get in any effective work.

And then . . .

There was a thundering roar that seemed to lift the earth up under our feet . . . Another roar. I was hurled back against the side of a building. Earth and brick and mortar were flying in front of my eyes.

Ruins and Death

Human bodies were in this debris. Other bodies were sprawled across a sidewalk. Two little children who had been walking ahead of me raced for the middle of the street. The last I saw of them was a belching pile of earth and paving stones that spewed thirty feet in the air where they had been.

And then as suddenly as the bombs had come they ceased. I crawled to my feet, my ears ringing and my head swimming. What had happened in those few minutes was something that the wildest stretch of imagination could never have conceived.

Many of the stately old homes along the Coolsingel were piles of ruins. Hundreds of bodies lay stretched out in the street which a few minutes before had been a quiet and peaceful avenue in one of the finest cities of Europe.

Police sirens were shrieking. Fires were burning on all sides.

Stunned as I was, I rushed for the squirming and writhing bodies. Other men were doing the same thing. The screams of the wounded rent the air. Hysterical women were rushing about aimlessly with their children.

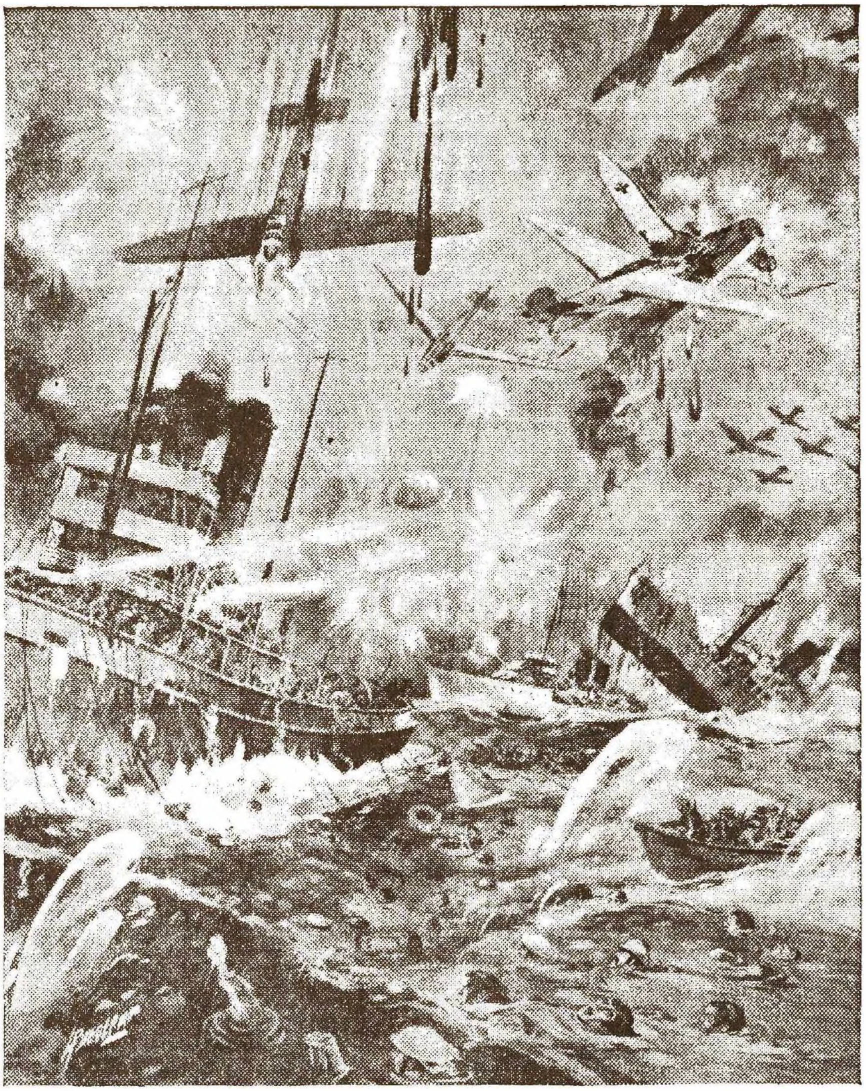
It was a living nightmare of the most terrifying horror man ever witnessed. From blocks away came the same screams. Great pillars of smoke rose from every part of the city.

We grabbed the mangled and broken bodies from the pavement, using coats as stretchers. We rushed them into the houses that were still standing.

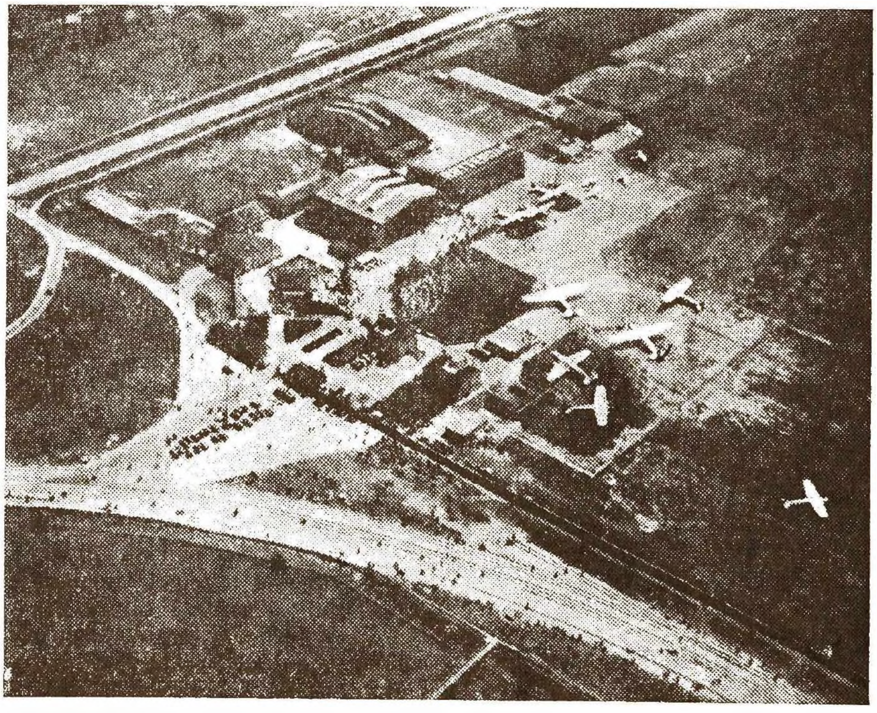
A Second Raid

Then suddenly the skies were dark again. What happened next is only a vague and disjointed memory to me. There was a blasting roar that seemed to come from the earth itself.

More bricks and more dust and more human bodies hurled into the air. I was lying flat on my stomach near a building. I didn't move. I couldn't because the shock of those bombs numbed every part of my body.

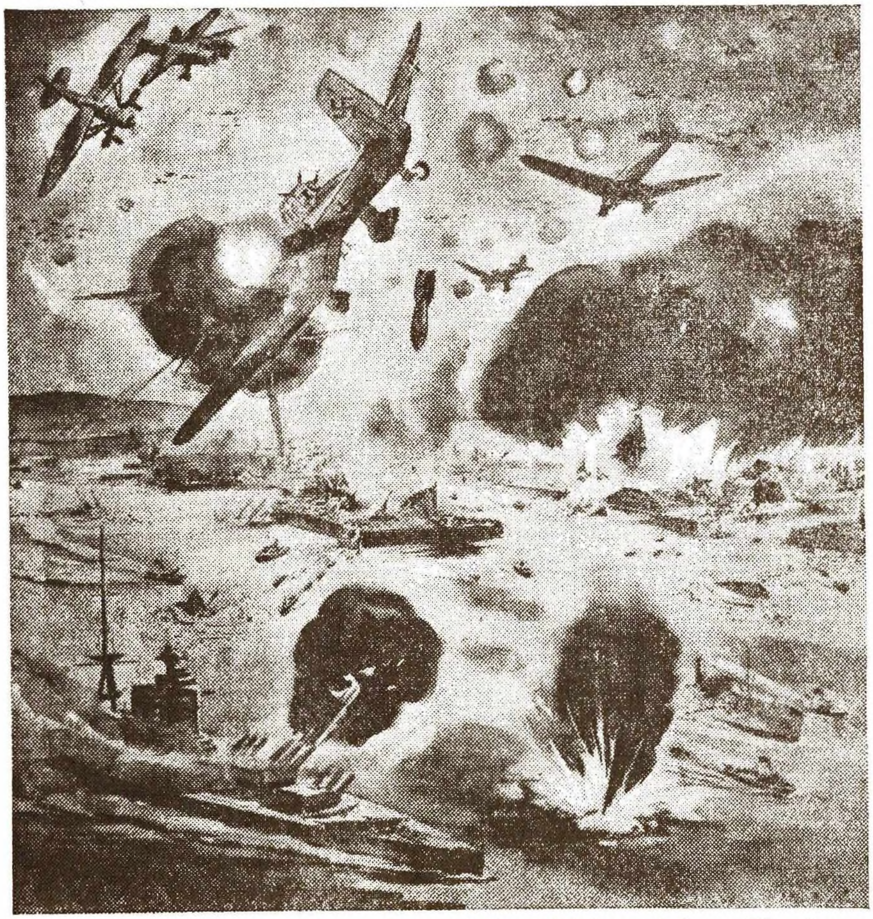


"Hell raining from the skies"—An artist gives his conception of the evacuation of troops from Dunkerque, described in this article.



This Rotterdam airport was an early objective of the Nazi aerial attack.

Members of the Dutch air defense poke through ruins seeking bodies.



This drawing shows another phase of the withdrawal from Flanders.

How long I lay there is something I will never know. The ear-splitting explosions suddenly stopped and the silence that followed was more hideous than the noise.

I staggered to my feet. I couldn't see very well. There seemed to be a mist over my eyes. There wasn't much screaming of the wounded now. Near me a child was groaning weakly.

I managed to get to her side. It was a girl about twelve years old. She had been wearing a new white dress. There wasn't much left of the garment. It was black and burned.

Her little legs were lacerated. Her face was covered with blood. I picked her up. The street was a mass of huge craters. I managed to stumble around them. Finally I stopped an ambulance.

That blood-stained little body did not move as it was placed in the ambulance. It hadn't moved after I picked it up.

I stumbled into the wide Hoog Straat, where a few hours before shops had been open and men and women and children had been going on their way as if there was no war.

The street looked like a battlefield now. Huge craters were there, and mangled bodies and blazing fires from the shambles of what had once been buildings. Ambulances were working frantically, but many of them had been blown into wrecked heaps.

The huge holes in the streets made it difficult for them to get to the wounded and many were driving on the sidewalks. Those who had lived through that hell of death were working to assist the ambulance corps.

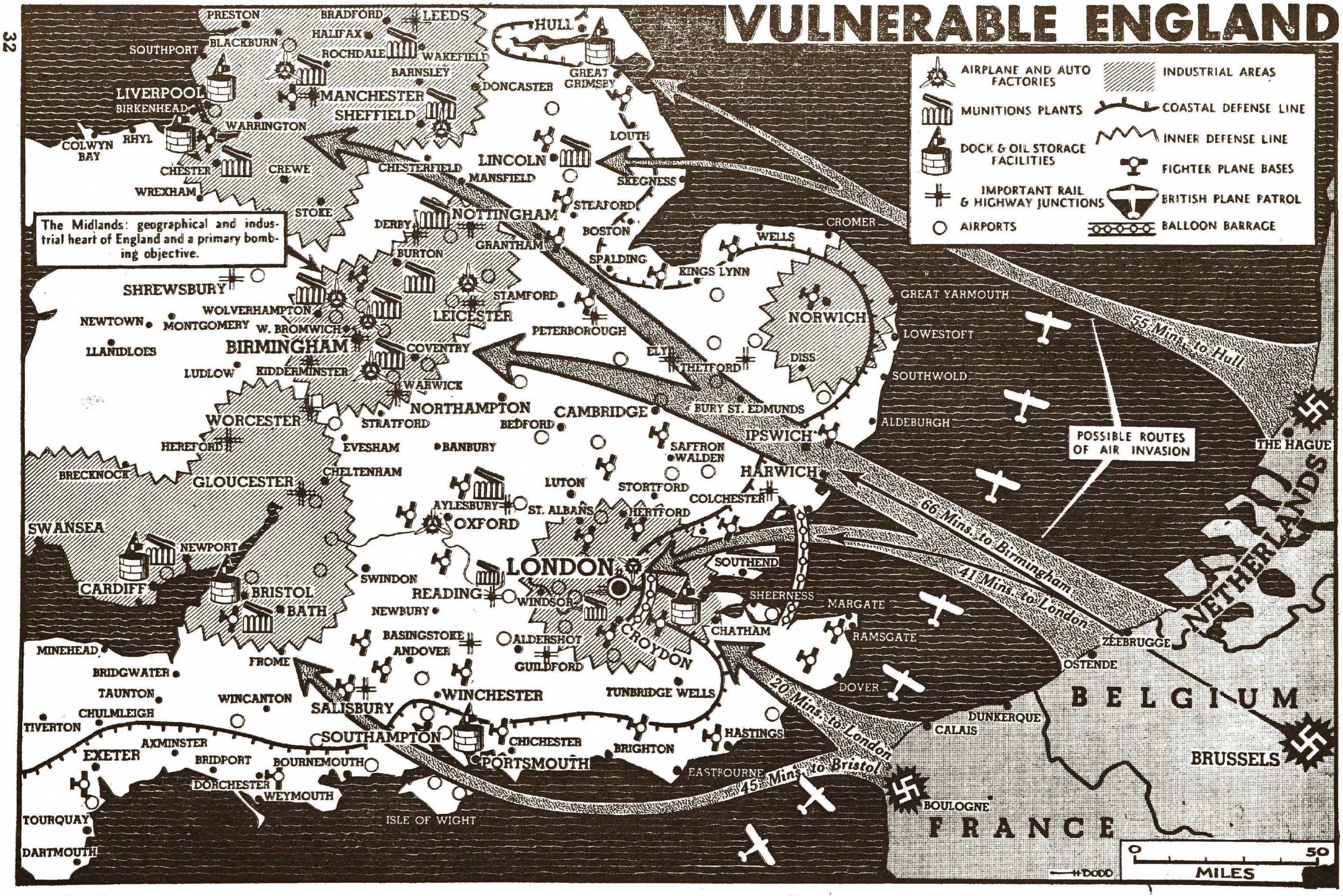
Men and women with clothes black and faces covered with blood were carrying the wounded. I stumbled forward and aided in this work.

Time Bombs Explode

The most ghastly terror of that bombing was yet to come. We had to wait fifteen minutes, and then in all parts of the city explosions wrecked houses and tore new holes in the streets.

Yet overhead no Nazi planes of death had appeared. These were the ghastly time bombs the planes had dropped—great projectiles that were hidden by debris and timed to explode when the air raid was over.

Those time bombs caught thou-


VULNERABLE ENGLAND
AIRPLANE AND AUTO FACTORIES
INDUSTRIAL AREAS
MUNITIONS PLANTS
COASTAL DEFENSE LINE
DOCK & OIL STORAGE FACILITIES
INNER DEFENSE LINE
FIGHTER PLANE BASES
IMPORTANT RAIL & HIGHWAY JUNCTIONS
BRITISH PLANE PATROL
AIRPORTS
BALLOON BARRAGE
The Midlands: geographical and industrial heart of England and a primary bombing objective.
POSSIBLE ROUTES OF AIR INVASION
55 Mins. to Hull
66 Mins. to Birmingham
41 Mins. to London
20 Mins. to London
45 Mins. to Bristol
PRESTON
BRADFORD
LEEDS
HULL
SOUTHPORT
BLACKBURN
HALIFAX
ROCHDALE
WAKEFIELD
BARNSLEY
GREAT GRIMSBY
LIVERPOOL
BIRKENHEAD
MANCHESTER
DONCASTER
SHEFFIELD
WARRINGTON
LOUTH
COLWYN BAY
RHYL
CHESTER
CREWE
CHESTERFIELD
LINCOLN
WREXHAM
MANSFIELD
SKEGNESS
STOKE
STEAFORD
DERBY
NOTTINGHAM
BOSTON
CROMER
GRANTHAM
WELLS
BURTON
SPALDING
KINGS LYNN
SHREWSBURY
STAMFORD
GREAT YARMOUTH
NEWTOWN
MONTGOMERY
WOLVERHAMPTON
LEICESTER
NORWICH
W. BROMWICH
PETERBOROUGH
LOWESTOFT
LLANIDLOES
BIRMINGHAM
COVENTRY
ELY
DISS
LUDLOW
KIDDERMINSTER
THETFORD
SOUTHWOLD
WARWICK
NORTHAMPTON
CAMBRIDGE
BURY ST. EDMUNDS
WORCESTER
STRATFORD
BEDFORD
ALDEBURGH
HEREFORD
EVESHAM
BANBURY
SAFFRON WALDEN
IPSWICH
THE HAGUE
BRECKNOCK
CHELTENHAM
HARWICH
GLOUCESTER
LUTON
STORTFORD
COLCHESTER
AYLESBURY
ST. ALBANS
HERTFORD
SWANSEA
OXFORD
NEWPORT
SOUTHEND
LONDON
CARDIFF
SWINDON
BRISTOL
READING
SHEERNESS
MARGATE
NETHERLANDS
BATH
WINDSOR
NEWBURY
CHATHAM
RAMSGATE
BASINGSTOKE
ALDERSHOT
CROYDON
ZEEBRUGGE
MINEHEAD
ANDOVER
OSTENDE
GUILDFORD
FROME
BRIDGWATER
DOVER
TAUNTON
WINCANTON
WINCHESTER
TUNBRIDGE WELLS
BELGIUM
SALISBURY
CHULMLEIGH
DUNKERQUE
TIVERTON
CALAIS
SOUTHAMPTON
CHICHESTER
HASTINGS
AXMINSTER
EXETER
BRIGHTON
BRUSSELS
BRIDPORT
BOURNEMOUTH
PORTSMOUTH
EASTBOURNE
DORCHESTER
WEYMOUTH
BOULOGNE
TOURQUAY
ISLE OF WIGHT
FRANCE
DARTMOUTH
0
50
MILES
DODD

Detailed map shows spots in Britain where bombers would strike in German invasion. Widespread bombing would precede landing of parachutists.

sands unaware. They blew houses to shambles and shot human beings as high as twenty feet in the air.

This nightmare of horror lasted over an hour. I managed to get back to my hotel. A bomb had crashed in the rear of the building, blasting away the whole wall. There was a crater in front of the hotel big enough to hide a small house.

There were no more air raids. Late that night the Holland High Command signed the papers for a complete surrender. The Queen had already fled. The capitulation was due to the fact that the Germans threatened to blast every city in Holland from the earth.

What happened in such a short time in Rotterdam convinced me that the Nazi bombers could have done just that.

It has been estimated that over a hundred thousand persons died in the air raids on Rotterdam. I don't suppose the real facts will be known until the war is over, but in that period of less than a half an hour thousands and thousands did die.

The carnage was so great that the Germans rushed their troops and mopping-up squads into the city to take care of the dead so that the world would not know the full extent of the hideous and cowardly slaughter. Besides the thousands killed, the city itself was little more than a smoking ruins.

So if one judges by what happened to Rotterdam, it is safe to assume that the power of the German air force is great enough to wreak terrible havoc on a city like London.

Rotterdam Was Unprotected

However, one must not take that comparison too literally. Rotterdam was practically unprotected from bombers. The anti-aircraft guns were small and not very great in number. Most of them were old-fashioned, and the men that manned them were inexperienced.

The German bombers had their own way. They could dive down to almost the roofs of the houses and plant their bombs with little fear of interference.

Could they do the same against London?

My frank opinion is that they could not. The German planes are not well built. They are slapped together on the basis of mass production. Their pilots are no match for the English pilots.

I spent over a month in England, getting as good a line on the air production there as is possible for an American correspondent. England today has Germany topped when it comes to fighting ships.

A bomber that is only supposed to carry a load of bombs to a certain place, drop them and return, does not require great craftsmanship or an experienced pilot. Its duty amounts to nothing more than a taxi service.

Against an unprotected city like Rotterdam, these bombers are successful. Against London, they would have to fight swarms of British "Defiance" and "Spitfire" and "Hurricane" ships, and these fighters would take a frightful toll.

Besides that, the bombers would have to run the gauntlet of a thousand of the latest and most deadly anti aircraft guns, manned by expert crews.

The air defenses of London will protect that great city, but unfortunately London is not really essential in the plan of blasting England to her knees.

Invasion of England

What applies to London does not apply to the great industrial cities to the north and west. Birmingham, for example, hasn't the protection of London in the matter of anti-aircraft guns—even though it comes under the protection of the English fighting planes.

Nazi bombers, at terrific losses, could blast Birmingham from the earth. They might first make a feint against London to draw off many of the R. A. F. defenders.

It is best to paint the picture of the air attack on England as it is visioned by the experts of Europe—men who have studied the possibilities from every angle.

The tacticians agree that such an attack must come suddenly, without warning, utilizing every plane Germany has at her command.

Nazi bombers, because of their quick construction, are not able to do any night or blind flying. The raids would have to come during daylight. The close proximity of the Holland, Belgium and French coasts, where large concentrations of planes can be gathered, would make it possible for the bombers to fly at an elevation of twenty thousand feet and coast over England without any air alarm signals being given.

Aside from these well-known facts, the actual air invasion of England, according to plans the Germans have worked out in minute detail, is shrouded in mystery. This mystery can be pierced by little facts picked up here and there and by accepting certain well-known principles of air warfare.

The first phase of the invasion—the preparatory phase—may extend over a period of several weeks. In that time wave after wave of bombers will fly over England, wreaking ghastly destruction on cities and factories and seeking to destroy British planes on the ground.

Parachute Troops

These raids will have two purposes—first, to destroy industrial life, and, second, to shatter the nerves of the people.

It is known today that Germany is willing to risk the loss of thousands of bombers in this first phase. The Nazis boast that they can produce planes at a figure that would seem fantastic if made public.

And then at the end of those weeks of endless bombings . . .

Dawn will break over England one morning and in the cool mist will appear something that will make the imagination of H. G. Wells seem tame. The skies above England will be black with German bombers and transport planes.

From these ships will drop the deadly parachute soldiers. The air above the English countryside will be dotted with white parachutists.

The umbrella men will land in every hamlet, on every road, and in every field. Their number will be such that the English anti-parachute forces will be helpless.

This is one phase of the German plan that most military experts agree on. The quickly assembled, untrained and poorly armed citizen corps against parachutists—when they drop in numbers that approach fifty thousand or even a hundred thousand—won't be very effective.

These chute troops are the pick of the German Army. They are armed with small machineguns, eight days of food supply, and bicycles that can be put up in the matter of seconds.

It is agreed by military men that the only chance the anti-parachute forces have is to catch the Nazis just as they land—before they have unhooked their parachutes and gone into action.

Once they land and get organized, it will be a matter of untrained and poorly armed residents trying to fight off vicious gangster-

(Continued on Page 44)

Blitzkrieg Rehearsal

In the Spanish Civil War Hundreds of Hitler's Pilots Received the Training They Needed for the Present Conflict. The German Style of Attack Was Perfected. Here an American Adventurer Who Flew for the Loyalists Tells His Thrilling Story of Fighting the Nazi Planes

By MAJOR FREDERIC LORD

(The Flying Soldier of Fortune)

WITH MY BACK to the wall I have stared into the rifles of a firing squad and felt the sting of bullets tearing into my flesh. I was left for dead by the executioners who were mutineers in the Russian Army. When but a kid of seventeen I flew in France with the Royal Flying Corps and was shot down and wounded the first time I crossed the lines—later I made up for it by knocking down twenty-three German planes and balloons.

On the Mexican desert I've heard the whine of bandit bullets and didn't know which way to escape. I've had an airplane catch fire with me when I didn't have a chute. I've fallen into tropical seas and had to swim past the sharks to reach land.

Yes, I've had my share of adventures—but some of my worst frights and biggest thrills came while I served as a Loyalist fighting pilot in the Spanish fracas in 1936-1937.

It was in Spain that the Nazi Army tried out many of the blitzkrieg tactics they are now using so successfully against the Allies. When they perfected a maneuver they filed it away for future use in the struggle for European domination they knew was coming. Today I can see the Nazis pulling many tricks for which we in the Loyalist Army were guinea pigs.

Merely a soldier-of-fortune, I have never inquired into the causes of any war I have been in. I did my fighting and left politics for the professional diplomats. Yet in Spain we were defeated by American neutrality which considered the government a belligerent and sold it nothing, but at the same time permitted Hitler and Mussolini to buy anything they wanted here and then transport it to France, their ally. England aided the rebels and the Nazis with her Non-intervention Committee—and now is paying for her folly.

The threat to the Allies from Spain may be another ace up Hitler's copious sleeve. However, I'll come to that later. Let's get on with a few of the more exciting incidents.

What a Crate!

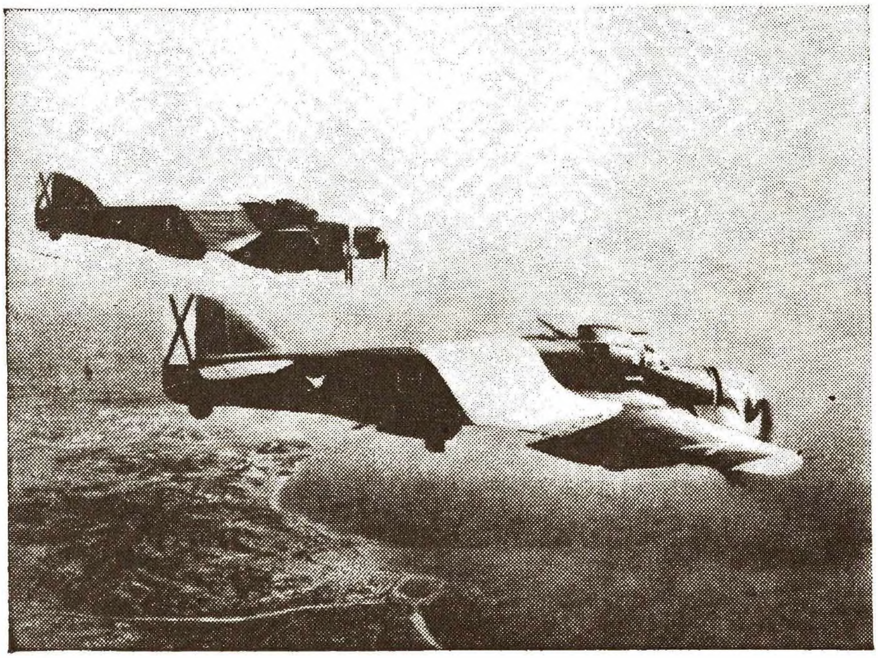
I was instructing in aviation at Floyd Bennet Field in Brooklyn when the phone rang one day and a voice asked, "Want to join another war, Lord?"

Within twenty-four hours I was aboard the Normandie bound for France.

The day I sailed was Armistice Day, 1936—a day when most of the world was celebrating peace. Reaching the other side, we entrained for Toulouse, where we took an Air France plane to the land of bullfights and senoritas and revolutions.

Being familiar with the luxury of American airliners, I expected this famed line to be equally up to date. But what a comic-opera crate we flew in; and what management and motors and pilots!

As we gained altitude to cross the Pyrenees we had to pile on blankets for warmth—there was no heat. Nor was there any pretty hostess to answer goofy questions. A port motor was spitting and belching smoke; it didn't worry the skipper, though it kept us American flyers on edge. The pilots of the ship took a morning paper and a bag of peanuts into their office and whenever they opened the door we saw one of



Italian bombers fly over the Spanish coastline in a civil war raid.

them reading the paper while the other munched peanuts and threw the shells on the floor.

Then the snow-capped mountains were behind us and we were in Spain. Lower and lower we dropped until we flew only a few hundred feet high. Off came the blankets, followed soon by the shedding of our overcoats and hats. We saw the blue Mediterranean, white and blue houses along the shore, palm trees, olive groves and the city of Barcelona. When we landed we knew we were in a country more foreign than France—and a war-torn one at that.

There were no senoritas at the airport—only troops sporting a variety of uniforms. Some wore ponchos, some coats, and some were draped with blankets. Every make and caliber of rifle and pistol was hung over shoulders or sticking from belts. They were individualistic, to say the least.

The ship was gassed and with that motor still spitting and belching smoke we took off again for Alicante in the southern part of Spain. At Alicante we doubled back to Valencia, the seat of the goverment, by motor-bus.

In Valencia we got our first sight of the war's ravages. Though there was nothing of military value in the city, the rebels had just shelled it from warships, and workmen were removing the debris and searching the ruins for bodies. During the first World War, I was accustomed to seeing death and destruction on a vast scale in Flanders, but here among the palms and olive and orange groves it seemed out of place.

We reported to the Air Ministry at Valencia and were sent to several flying fields. At each field there was a scarcity of ships and we'd be sent to the next one. At least it was a nice tour of Spain!

Eventually we were ordered to Bilbao in the Basque country. The flight was made in an old Douglas airliner which was unarmed. Though much of the trip was over enemy territory, no rebel fighting planes spotted us.

Bilbao was surrounded on land by Nazi and rebel troops, and the sea was patrolled by Nazi submarines which prevented supplies from coming in to the beleaguered Loyalists. Just out of Bilbao harbor we flew over three German subs. Though it was all right to shoot down German Heinkels, these subs could not be bombed. A screwy war—but that was non-intervention!

"Our bombs destroyed ten of the enemy ships," writes Major Lord.

We pilots were quartered in a charming old chateau just out of Bilbao at Los Arenas. And what a League of Nations! The nationalities included Spanish, Basque, American, English, French and Russian.

Ancient Planes

The next morning a car called for us while it was still dark. A cold, drizzling rain made me wish for the bed—it certainly was no day for flying. But the carload of pilots was soon deposited at Sandica Aerodrome and we sloshed around in the mud trying to get acquainted.

As a hangar door was opened I gaped in amazement at an assortment of ancient commercial crates. Surely there must be something wrong; they certainly don't fly these things at all—to say nothing of flying them over the lines!

Where were all the pursuits and the bombers they told us about in New York? In faltering Spanish, I asked a pilot if there was another hangar and was told that this was the Basque Flying Corps complete.

Well, that hangar contained two English Miles sport jobs, a couple of Monespars with tiny Pobjoy motors, an old cabin Farman with a J-6 motor, a Vickers two-seater reconnaissance job with a prop that looked like a telephone pole, a J-6 Fokker tri-motor passenger plane and two Breguet two-place bombers of 1925 vintage.

Guns? The pilots who flew the sport jobs just carried pistols. The other ships mostly had a Lewis gun stacked in one corner of the cabin—and try to shoot a machinegun from the hip. The Breguets actually did have one machinegun for the gunner-observer, but none firing forward. The cabin ships had no bomb racks. The pilots carried their bombs on the seat beside them. When over their objective they'd wind down a window and heave them out by hand—and hope they cleared the landing-gear. I felt sick.

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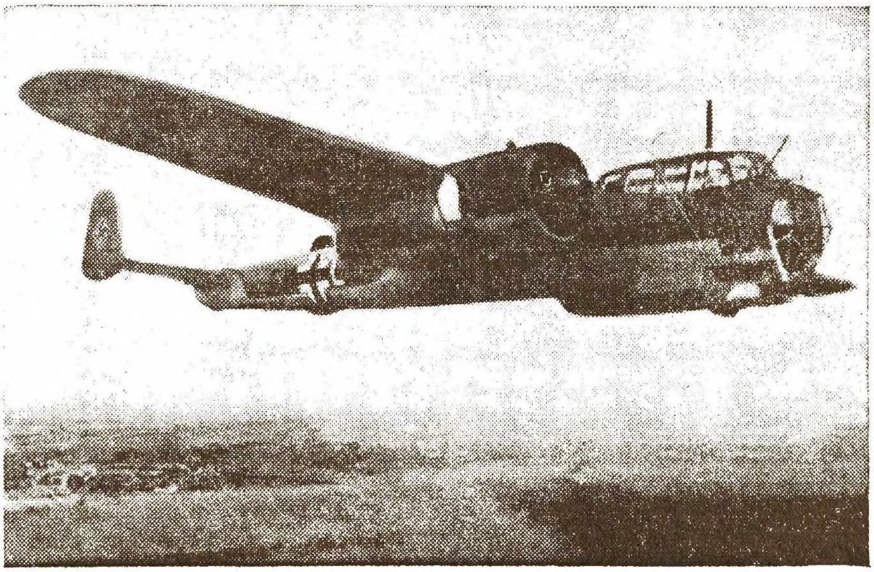
Huge Nazi ships of this type were among the planes aiding Franco.

Commandante Gascon, a Napoleonic-looking chap, was pointed out to me as the head man. He was a small, noisy, little guy who was now standing with legs spread and arms stuck in his tunic. I admired his uniform, because the foreigners in the air corps flew in their civilian clothes.

Gascon approached me with an interpreter. He explained that I was to fly one of the Breguets and that he would check me out right away. Well, I'd gotten myself in this man's army and if the Spaniards could fly this stuff, so could I. But what a crate it was! The fabric actually hung loose in places and it was patched poorly from nose to tail. The tail looked like a sieve. I learned that the previous night a guard had accidentally discharged a shotgun and riddled it.

With Gascon in the back seat, I taxied to the corner of the field. This field was cut out of the side of a hill, so we could only land and take off one-way. In this case down wind! I opened the throttle and the five hundred and fifty horses got us off all right, and then the fun started. We went zooming and diving for five minutes before I could keep her on an even keel.

A Broken Wing

At 1,500 feet I levelled out. I tried a gentle turn and fell into a spin. It took all my strength to bring her out. I tried a gentle zoom, but when I started to recover from it the stick was snapped from my hands. The ship fell into a spin, even though I had full opposite controls on.

I was now thoroughly worried. With all my strength I pushed the controls to the side and opened the motor. Slowly the wing came up and the ship levelled off. But if I released the pressure on the stick the very slightest, down would go the wing again. Flying along with the stick in one corner and full rudder on, I glanced around the crate. I then saw the danger—my right upper wing had broken and part of it was threatening to leave at any moment and completely throw us out of control.

Gascon suddenly jumped up in his seat and shook my shoulder. In Spanish he screamed something about "up," as though he wanted me to climb higher. He said something about "airplane," which I didn't get. I knew we were expecting a German air raid that day and thought that perhaps even now the field was being bombed and that he wanted us to get away from any danger of being attacked.

But Germans or no Germans, the ship was rapidly falling apart and I just had to get her down at once. The lower I went the more Gascon screamed. As I neared the field he even started beating his fists against my back. At 200 feet I cut the gun. The broken wing once more, and again there was danger of a spin. As I had full opposite controls applied there was nothing further I could do.

I opened the motor—this would probably be the end! But no—again the wing slowly came up just as we were about to crash.

Gascon was still screaming and pounding my back and ordering me to climb. I nosed down with motor full on until the wheels touched earth, and then I switched off.

Other pilots crowded around to ask why I hadn't bailed out. I explained that I was sure the chutes wouldn't open. They'd been used as a bed on the wet concrete floor by the guard, and wet silk just won't open.

I realized now that Gascon had screamed at me to go higher so we could jump. But I had saved the ship despite his orders. The only trouble was that everyone on the field had heard his yelling and had seen him shaking me. He had made a fool of himself. From that day on he hated me.

Suicide Patrol

The constant Nazi raids were doing considerable damage to the countryside around Bilbao. One day I asked the Commandante how many ships the rebels had—and why not raid their flying field? He told me that they had just about the same sort of junk that we had, and added that the enemy field had never been raided. If their ships were no better than ours, we'd stand a fair chance of destroying their few planes without much danger to ourselves. "Let's go over and give them hell," I suggested. But Gascon only glared at me and strode off.

Several days later the American and English pilots and their Spanish observers were called together. We were told we were to raid the enemy flying field at Vitoria, about twenty miles over the lines.

Gascon seemed pleased about something. I didn't notice then that there were none of his regular pilots among us, but later wondered if he knew Hitler had just moved fifty new Heinkel fighters and twelve Junkers to Vitoria. Possibly Gascon was just trying to get rid of us and the old planes at one crack. It was some hornet's nest we stuck our noses into!

I was detailed to fly the one remaining Breguet. This was to be the main bomber, as it carried a load of thirty bombs and quite a few incendiaries.

We had neither maps nor compasses, but were told our observers knew the way well. With his finger, the Commandante traced the course on the one map in the office. Here, a few miles to the south, was Villereal. That was the front line and we would recognize it by the many shell holes and destroyed buildings. Twenty miles further on was Vitoria, the base of the rebel-Nazi air squadron.

We were to stay in formation, and the Breguet was to be the leading ship. Six Russians flying gull-wing Curtiss-type pursuits were coming from their field to act as protection for us. We had a ceiling of around 10,000 feet.

Of all the amateurish shows, this patrol was the worst. There simply was no semblance of order. With one exception, none of these pilots had ever been to war and they had no idea of the value of formation for protective purposes. I should have been the first away from the field with my slower ship. Instead, the first ships off were the Miles sport jobs with their meager four bombs apiece. They could do around 160 miles per hour, as compared to the 90 of the lumbering Breguet. Off they streaked for the front. Then the Farman, the Monospars and the rest streaked off, finally followed by myself. I soon lost sight of the others. The Russians protecting us must have gone crazy trying to keep an eye on the scattered mob.

At 10,000 feet we soon passed over Villereal and were met by a few bursts of "Archie." Here also I passed the first of our planes; it was already returning. Far behind it came a Monospar and beneath me diving for home was a Miles Hawk.

Evidently these ships had already dropped their eggs—stirred up the hornets' nest—and were on their way back while I was still miles away. I figured I'd be safe enough anyway—if the rebels had ships such as ours they couldn't get them started and up to my altitude for a long time.

The observer slapped me, pointed down, and yelled "Vitoria." I circled and saw the field. From a corner of it a pall of smoke was rising where one of our planes had made a hit.

The Heinkels Attack

I put the ship in a tight bank and counted a lot of little silver fighters below us. Eight, twelve, fifteen, twenty!

What did Gascon mean by saying the rebels had only crates like ours? Fascinated, I watched those ships take off in threes and disappear. Yes, coming right up for me. But never mind—from my altitude I could make our lines before they could climb to me. Yeah, that's what I thought.

The observer slapped my back and in Spanish yelled, "Scram for home." The last of our twenty eggs were just leaving their hen and our job was done. Still quite confident of our altitude, I turned toward the lines.

Then I saw the sky swarming with ships. They were the latest and fastest thing in Hitler's air force—speedy Heinkels. I couldn't fight, for I had no gun. All I could do was put my nose down in a long shallow dive for the lines and let the observer try to protect our tail.

One group of these Heinkels passed directly over us and my heart skipped plenty of beats. But they must not have seen us, for they kept straight on toward the lines.

When still several miles from the lines, I saw a Heinkel overtaking us rapidly. Its performance and clean lines amazed me. I kept my course and the enemy plane pulled up so close that I could see the goggles of the pilot and his youthful face.

I wondered why my observer didn't fire, and attracted his attention by banging on the side of the fuselage. When I pointed out the enemy ship the fellow actually grinned and made a gesture which indicated "If you think that's anything, look on the other side."

I twisted around in the cockpit, looked, and wished I were back on Broadway.

There, not fifty yards away was a perfect formation of three ships. Just then their guns started blazing away. I was afraid to throw the Breguet around, for fear of losing another wing, so I still kept straight on and depended on the observer. By why didn't he fire? Then I remembered he had only a short burst of 49 rounds.

Where was that Russian escort? I hadn't seen a thing of them since we took off. Ah, there they were. But what a big help they would be—each of them had a couple of Heinkels around him. Four Heinkels now pulled off and dived at us from the side. I could hear their guns, but there was no rattle of bullets against the Breguet. I wondered why, as they were pretty well trained pilots. Suddenly I knew the answer—they had been practicing gunnery against 250 m.p.h. ships and were just leading this old scow too far with their bullets. Yes, there far ahead of me, I could see their tracers crossing my line of flight. Saved by my slowness. But was I?

Far overhead I saw two biplanes plummeting down with their noses pointed my way. I tried to turn away, but the crate was too slow.

A Kit to Pack

Then I saw the gull-wings and knew they were part of the escort patrol come to my rescue. The Germans saw them, too, and tried to get away, but one went down spinning out of control and another faltered as though the pilot was wounded. I breathed easy once more.

Far ahead of me I saw slaughter taking place. It was Sidney Holland, of London, flying a Monospar. Three Heinkels were blasting away at his tail. There was a sudden burst of flame and he went down like a falling Roman candle. More letters and a kit to pack tonight.

I went down a thousand feet, and over Villereal dropped my incendiary bombs, then lumbered along for home.

From the enemy radio later we learned that our bombs destroyed ten of the enemy ships, including two large Junker bombers, a hangar and two trucks. The Russians shot down four Heinkels in dogfights. Our losses were Holland, one Russian and two Spanish observers.

Gascon did not seemed too pleased. He was either sore at having lost the Russian and his ship, or he was mad that the whole gang of Yanks and Limeys didn't get killed.

I was making $1,500 per month plus a bonus for every rebel ship destroyed. That was more than the whole Spanish squadron earned together. El Commandante no like that, either.

Almost Blasted

I didn't like the job Gascon allotted to me a few days afterward because of the weather. I was ordered to do some low bombing of Villereal, even though the visibility was barely two miles and many of the mountains were covered with fog.

I still had no map or compass and had to depend entirely on my gunner's sense of direction. The plane was loaded with twenty thirty-pound bombs to be dropped on an enemy battery. At 5,000 feet the clouds closed in on me and I couldn't see the ground. Then one mag cut out, reducing the revs so that the ship wouldn't climb any more.

Right there I decided to get back to the field and safety. To crack up in those mountains with a load of live bombs wouldn't have been so good.

I pulled the crate around and dived out of the clouds into a valley which we followed back to the field. Most pilots never land with a live load of bombs. The usual practice is to drop them into the sea. However, my motor was now so bad that the ship just couldn't maintain level flight any longer. I got down all right. Safely on the field again, I was listening to the observer's congratulations on my very smooth landing when the Commandante came barging up at full speed.

He started jumping up and down and screaming Spanish at me, ordering me to do the job I was supposed to do. I pointed toward the motor to indicate it was on the blink.

But this madman paid no attention whatever to me. Instead, he pulled his automatic and stuck it into my belly, saying he'd shoot me if I didn't fly at once. I was unarmed and burdened down with a parachute. What could I do?

My idea was to get away from the present danger—maybe the motor would get me off. What kind of noise would twenty bombs make if it didn't?

As I climbed into the ship again I noticed that several of the native mechanics had their hands on their guns.

I taxied down to the end of the runway and expected the crew there to help turn the ship around. Instead, they told me to climb out.

But it wasn't going to be an impromptu execution—they smiled and patted me on the back and said I wasn't to fly.

With their hands still on their guns, they surrounded me, marched me past the fuming Gascon, placed me in his car and drove me to a cabaret in Bilboa, where they left me.

That night the pilots and mechanics had a meeting and decided they'd had enough of the Commandante. They voted to shoot him the following night.

But the next morning we went on a patrol and got a number of our ships knocked down by Heinkels. That night there was too much sorrow in the mess to even think of Gascon.

A few days later Alfredo Bayo, one of the superior officers, had me make a written report of the whole thing. For the morale of the service, Gascon was promoted—and sent to Siberia or some such place on a diplomatic mission. He's probably still looking for his post.

Italians in Spain

One day a week or so after that I had been over the lines and laid my eggs when the gunner suggested we follow the coastline back to the field instead of taking the inland route.

He was closely watching the sea. Las Arenas is practically the seaport for Bilbao, and I was motioned to go in that direction. Oh, that was it? There, just out of the harbor, a German submarine was sinking a British food ship trying to make port.

I pushed the throttle open and hurried to the airport and landed. Yelling for a mechanic, I grabbed a bomb and started putting it on the bus. I was excited; if the Government paid us $1,000 for every German plane we shot down, what wouldn't they pay for sinking a German submarine caught in the act of destroying neutral shipping in Spanish waters?

But at that moment the interpreter came on the run. He explained that we couldnt' sink the German submarine or Hitler would come in with his whole Navy and destroy Las Arenas in retaliation.

Oh, yes, it was all right to shoot down any of Hitler's planes, because they were in Franco's army—but leave the submarine alone. What a war!

A similar thing happened at the southern city of Cartegena. Mussolini had a couple of hundred thousand of his troops in the region and pretty much ran the war there as Hitler did in the north. He had taken over the Balearic Islands, and from this base daily made air raids on the Spanish coast.

One day a large Italian battleship pulled into Cartegena harbor and dropped anchor. Officially, Italy was on friendly terms with Spain. All day long officers aboard the ship made note of the public works ashore. That night the Italian bombers came from the Balearics and wrought havoc in the city. The battleship played its powerful searchlights on buildings to aid the bombers. And again the Spaniards dared not fire a single shot at the battleship though they did shoot plenty at the airplanes.

What a war is right! But it was wonderful training for Italy and Germany.

Demonstration Blitzkrieg

Most of the war in Spain was fought along the usual formula. But at times there would be small demonstrations of total warfare.

The Basque country was very mountainous, yet at times of heavy attack the enemy would come over in waves of tank columns. The Loyalists had no anti-tank guns on this front, so it was up to the "dynamiteros"* to repel the assaults. It really looked like a modern David and Goliath conflict. The "dynamiteros" would have a slingshot and a bag of dynamite, and would carry a long stogie between their teeth. As the tanks came within reach they would light the fuse on a stick of dynamite with the stogie, place it in the sling and then try to cast it directly under an onrushing machine.

One day Hitler and Goering supposedly had an argument about the efficacy of modern aircraft, so Goering gave a demonstration of what his planes could do.

Guernica was the Holy City of the Basques. Here was an oak tree under which the Basque kings had been crowned for centuries—also an ancient cathedral and a convent containing many treasures of the people. The war was still a few miles distant from the city, so peace reigned outwardly. The farmers were tilling the land or tending their herds of goats and the city-folk were doing their chores when the attack occurred.

First came wave after wave of Nazi attack planes which, skimming along close to the ground, took the sleepy city by surprise. Thousands of small bombs were dropped, and as the people fled for shelter they were machinegunned.

Next came waves of heavy bombers to drop large bombs on the buildings. As the buildings toppled the Basques again took to the streets where they were targets for planes with machineguns, incendiaries and light fragmentation bombs.

In a short time the city was levelled and the streets littered with corpses of women, children and old men. The holy city was no more.

The press of the world raised an outcry against this brutality. But Hitler knew he had a terrible blitzkrieg weapon up his sleeve for the future.

HOW HITLER BUILT HIS AERIAL ARMADA

(Continued from Page 11)

"Oh, that. That came from Sweden."

"A Swede designed it?"

"No, a German."

Then my informant shut up like a clam.

But it did not take me long to run the clue to earth and this is what I found:

Aside from pilot training, the principal problem confronting a war-time air force is production. But even before production comes design. Design staffs are not built in a day, or even in a year. They consist of dozens of engineers with varying duties, and smooth operation, quick and efficient, comes only with years of practice.

The Versailles Treaty had outlawed German aircraft production, which meant disbanding the German design staffs. But instead of complying, the Germans had merely moved their war-time staffs across their frontiers.

The Junkers plant was in Sweden. Dornier was in Switzerland. Others were in Denmark and the Balkans. All were selling aircraft where they could, operating at a loss if necessary. All were awaiting the signal to swarm back into Germany. All were awaiting Der Tag!

You see, all this time the victors of 1918 were working under the assumption that the war was over. Germany was working under the assumption that it was just beginning. So when the United States loaned Germany money to recover from the last war, the nation used it to prepare for the next.

Goering Is Summoned

Then, in early 1933, came Hitler and his Nazis. From the first, their avowed purpose was to tear up the Treaty of Versailles, clause by clause.

Hitler did not immediately throw off the mask, but he did summon Hermann Goering.

In effect, Hitler said to Goering: "Build me the strongest military air force in the world."

Goering's first move was to enlarge the glider schools. But at this point it is necessary to stop and consider for a moment how much gliding experience can contribute towards military flying.

Although in the pressure of war all countries send pilots into aerial combat with less, it is desirable that a war-time flier have at least a hundred hours of prior experience in powered airplanes. Not over six or eight of those hours will have been dual instruction. And since gliding experience can do nothing more than cut the "dual time" by four or five hours, it will not materially reduce the training period.

What, then, does glider training accomplish? Why did Germany dwell on it? Because the country-wide soaring schools made the nation air-minded — and because the biggest waste of time in flying schools is due to weeding out the boys who lack a sense of balance or are otherwise tempermentally unfit to fly.

Even among healthy beginners who have passed rigid physical examinations the ratio of the unfit will be as high as one to three, representing a thirty-three and a third percent loss of time. Germany saved that time—she knew that all the graduates of her soaring schools could successfully fly powered airplanes.

Aerial Sports Union

Then the German Aerial Sports Union came into being. Its pilots flew small, low-powered put-put planes instead of gliders. But these planes had motors. And the sky was alive with them, in places where sportsmen-pilots had no legitimate reason to be. I saw them criss-crossing Berlin at low altitudes—excellent training, no doubt, for bombing students, but a menace to householders which no other country would tolerate.

The indoctrination of German school children now became systematized. Every school teacher in Germany received weekly aviation lesson assignments. Each was required to report the names of students who showed air aptitude. During their manual training periods, German boys no longer made coat hangers and bird houses—they built model airplanes.

Meanwhile, Ernst Udet—who, after the death of Richthofen, was the German ace of aces—had reentered the picture. Udet was one figure who was thoroughly familiar to American pilots. In the years since the war he had barnstormed the United States and appeared at the national air races. We Americans knew him as a superlative pilot with a sense of humor and a side-splitting aerial vaudeville act.

Goering put Udet in charge of all technical development. Immediately many things started to happen.

As yet, German rearmament was under cover. But for "sport" Udet bought two American Curtiss "Hawk" military pursuit ships. For "sport" he decked out young German air fans in military-type gray-blue uniforms. In 1932 the United States sold Germany a paltry six thousand dollars' worth of airplanes and motors. But under Udet, the 1933 figure was a quarter of a million. In 1934, it was a million and a half.

From our United Aircraft the Germans bought three 160 m. p. h. Boeing transports. They bought the manufacturing rights to Pratt and Whitney Hornet motors. Through a Dutch factory they negotiated rights to another 200 m. p. h. American plane, the fastest heavy job—either civil or military—thus far seen in Europe.

German Air Research

If you name America's Langley and Wright Fields, together with the Bureau of Standards, you have named about all of America's military air research facilities. Udet now instituted dozens of similar institutions, farming them out in universities all over Germany. At Hanover and Aachen and Stuttgart engineers studied wing curves, weight and drag problems, engine design, the advantages of Diesel motors as against fuel injection and ordinary gasoline motors with improved fuel.

Meanwhile the Junkers and Dornier and all the other design staffs had quietly trooped back into Germany. At their instruction, former automobile factories, furniture works and sheet metal plants began to turn out airplane and motor parts. As yet they did not assemble them, but by 1934 it was estimated that Germany had from three to four thousand knocked-down military airplanes ready to put together at a few hours' notice. In 1933, one plant alone—the Bavarian motor works—increased its production of aircraft engines more than two hundred percent.

Heretofore, the principal obstacle in the path of volume aircraft production had been the necessity for design staffs to stop designing while superintending the production of a new model. So Udet introduced a system which operated like this:

The designers turned out a new model and built one. A test pilot flew it and recommended necessary changes. The changes were made and ten or a dozen production models constructed in order to effect the desirable compromises between ideal performance and manufacturing economies. During the process, jigs and dies were standardized and blueprinted—and the design staff was finished.

What happened next? Just this. Goering's headquarters decided how many of the new model were desired, after which one—just one—production superintendent took the blueprints to some made-over machine shop or sheet metal works in a far corner of Germany. There the planes were ground out by mechanics who did not know—and did not need to know—a thing about aircraft. It was all so simple that the only wonder was that someone did not think of it sooner.

So Udet planned for the future, while Goering took care of the present. Goering's immediate preparations were so shrouded in mystery that it was only by accident that I got wind of what was afoot. I had an assignment in Russia at the time, and my thoughts certainly were not dominated by Germany.

But in Moscow I managed to visit the airport. I walked through the headquarters building to find myself on a big concrete apron facing the flying field.

The hangars were all closed and locked, but out on the field a group of men was gathered around a fast military single-seater which had just landed.

The first thing which aroused my suspicions was that the plane did not look like any Russian job with which I was familiar. Then two of the men walked toward me—and somehow they did not look like Russians. As they came closer, I could hear their conversation. They were deep in a technical discussion about carburetors. And—they were speaking German!

That was enough to put me on the right track. In another six weeks—and after another trip to Germany—I had the ominous details:

Goering had made a deal with the Kremlin whereby whole squadrons of Germany's undercover air force were being trained in Russia!

All of this was taking place in 1933 and 1934. What, you may well ask, were England and France doing about it?

Allies Did Nothing

The plain answer is, nothing. Not that they weren't warned—they were. In October of 1933 Germany had withdrawn from the Disarmament Conference and the League of Nations. It was February of 1934 when Dora Fabian fled out of Naziland to give her account of Nazi preparedness. So perhaps the British and French did not believe. Or didn't know what to do about it. Anyway, everyone conferred with everyone else and that gave Germany the one thing she needed—more time.

She made the most of it. So much so that in November of 1934 Winston Churchill exploded a bombshell on the floor of the House of Commons. Said Mr. Churchill:

"Germany already at this moment has a military air force!"

Ultimately the British Government sent Hitler a warning note.

Instead of heeding the warning, Hitler threw off the wraps.

March 1, 1935, became the officially-announced "birthday" of the German air force.

Fourteen days later Hitler christened Germany's first pursuit squadron, naming it the Richthofen Squadron.

That same month he denounced the Versailles Treaty restrictions, declared Germany's intention of rearming, decreed the resumption of compulsory military training for all Germans over eighteen years of age.

At last German hate was out in the open.

It all came to head when Germany marched unopposed into Czechoslovakia and one year later began the long-anticipated new war by blasting Poland. This writer was able to witness both events. He marched into Czechoslovakia shoulder to shoulder with the advancing German infantry. He has since crossed devastated Poland and viewed the shambles of Warsaw. He saw what the German air force had done; he watched it preparing to duplicate the bloody feat in Holland and Belgium and France.

Production Increases

In the years from 1935 to 1938 German aircraft production and pilot training had increased so fast that the British and French were dizzy. In the very first of those years Germany graduated 4,000 soaring pilots and turned out nearly 3,000 qualified military pilots.

Forty-seven airplane factories and eighteen motor plants built their planes. The Junkers factory alone employed 15,000 men working day and night—which made it the biggest aircraft factory in the world. Then the Heinkel company rolled all German experience into one package and built its Oranienburg plant, considered by the Germans to be the ultimate in airplane factories.

Could anything be done about it? Could the Teutonic avalanche be stopped? As late as 1937, I think so. By that year the Germans were turning out neat fighting jobs. But they had a weakness—as was indicated by the fact that too many of the planes were labeled "all purpose."

And that is a rank military give-away. Proper battle planes are not designed for all purposes; they are designed for one purpose. An all purpose job is merely a stop-gap to be used where needed until you have time to build better, and more.

Took Aerial Supremacy

But the Nazis were granted the time and the world now knows the result. By the Autumn of 1938 there was no stopping them. They had already grabbed Austria. Backed by his Messerschmitts and his Junkers and his Heinkels, Hitler swaggered up to Munich and took Czechoslovakia without firing a shot. But he was prepared to fight, and Poland proved it. I saw what was left when the fighting was finished—and I wish I could forget it.

Then I came out of Europe by way of Norway, just before the German invasion. While there, I encountered another strange and untold story. Here is what many Norwegians said to me — good Norwegians, loyal Norwegians.

"The thing we fear more than anything else," they said, "is Russia. Only slightly less, we fear Germany. One or the other will surely grab us, and if Russia comes, she will bring Communism. And we fear that both England and France are far too busy to protect us. So the choice becomes the lesser of two evils. Germany is the lesser. All we can hope for is that Germany gets here quickly."

Sure. I know. Although many Norwegians laid down their arms, some resisted. But the only thing proved thereby is that Norwegians are no different from any other people—they do not all see eye to eye.

And neither do generals and admirals and aviators. But that is purely a professional problem, and it is about time they understand a few things. Foot soldiers occupying territory still win wars. But without aerial supremacy the foot soldiers can never succeed. And if the German air force has not now proved that to the satisfaction of the generals and admirals—well, time out while I go get some raised letters, a diagram and a club!

NAZI BOMBS OVER THE U. S.!

(Continued from Page 23)

ances. But "Billy" Mitchell fought on until he died, heartbroken, in 1936.

On December 28, 1925, the day he was found guilty, Mitchell ended the presentation of testimony in his own defense when he stood up and declared:

"My trial before this court martial is the culmination of the efforts of the General Staff of the Army and the General Board of the Navy to deprecate the value of air power and keep it in an auxiliary position —which absolutely compromises our whole system of national defense.

"These efforts to keep down our air power were begun as soon as the sound of cannon had ceased on the Western Front in 1918. When we sank the battleships off the Virginia Capes in 1923 and proved to the world that air power had revolutionized all schemes of national defense, the efforts were redoubled and have continued to this day."

What Wilson Said

Fifteen years later, in 1940, the following words were spoken before an executive session of the Senate Committee on Military Affairs by Major General Henry H. Arnold, commander of the Army air force:

"European war developments have caused the Army to revolutionize its ideas about the armament of fighting planes. Every military plane in the United States is obsolete according to European war standards. It would be suicide to send our aviators up in the planes we have now."

Further bearing out Mitchell's predictions Secretary of the Navy Charles Edison declared recently:

"Battleship armor must be increased on the deck levels. The war in Europe has shown that temporarily the airplane has the advantage over warships."

Changes in design were promptly ordered in construction which is even now under way.

It was in 1925 that "Billy" Mitchell pointed out:

"Germany—and Russia, too, for that matter—is developing transport ships of gigantic size. Some of them carry twenty or thirty passengers. There are others that carry sixty passengers or more, though these are experimental. Somewhere between the two is an army transport of the future capable of taking fighting men long distances in a hurry. In our country, where there are tremendous distances to cover to keep our defense forces mobile, this is something to consider."

Another who recognized the danger signals far ahead was the great wartime President, Woodrow Wilson. It was in 1921, during his last illness in his house on S. Street, Washington, that he spoke to a friend of what the League of Nations ought to mean to mankind. Then, with a sigh, he added:

"This thing will have to be done all over again—and at five times the price!"

President Wilson's estimate of "the price" was a conservative one indeed in view of the happenings of the past few months. Developments in the near future will prove it even more so.

For the Nazis have only begun. For reasons best known to himself and his staff, Hitler has as yet failed to unleash his much vaunted "secret weapon." When it is finally put into use I will wager that Americans are going to lose most of their complacency. Poison gas and flame-throwers are going to seem tame by comparison.

"Protection" by Hitler

Arguments have been advanced to the effect that an invader would have such a difficult time landing troops anywhere in the western hemisphere that invasion would be stymied from the outset.

That argument is silly when one considers that the English evacuated 350,000 troops from Dunkerque in all types of vessels while the Germans gave them everything they had from the air, land and sea. It is especially silly when one stops to consider how pitifully vulnerable this country is in defenses and Army and Navy strength at the present time.

As I visualize it, trouble before long is going to break out in South America. Say a revolution starts in Brazil. Will the Monroe Doctrine keep Hitler from feeling that he must send his troops there to protect German interests? Not at all. Why can't he establish a protectorate over any South American country that strikes his fancy, just as he has in Europe? The only answer to that is, "Why, the United States won't let him. We will protest."

All right, we rush forces and ships and supplies to Brazil.

In the meantime there will be little to prevent the Nazi forces from striking with lightning-like rapidity at the Panama Canal—and Mexico. With the canal obstructed, with Mexico in the hands of the invaders, with air bases of the enemy virtually dotting the West Indies, the United States, even if an invader has not yet set a foot on American soil, will be virtually already cut in half.

That cutting-in-half stunt is a favorite one of Hitler's. And it works.

As for resistance, obstructions—the Nazi hordes with their motorized columns, their parachute troops, their vast reserves of planes and pilots, their incredibly effective fifth column boring from within, easily sweep around such things.

There is nothing to disprove the belief on my part that Brazil, Uruguay, or any South American country would be another Scandinavia. While we were busy trying to fight Brazil's battle, the Nazis would strike elsewhere with lightning-like speed, just as they have done in Europe. And I am convinced that spot would be Mexico. The "Middle Valley," the dried up lake bottoms, those natural landing fields near Torreon, are a perfect starting point.

Accurate Bombing

All right. Now we have a battle raging in South America. While this was going on Hitler would be thundering of reprisals, just as he did in Europe, and is still doing: "I will drop twenty bombs for one of yours." And he could do it, too, and before an invader set foot in the United States. That is, an invader in a uniform. The fifth column would meanwhile be exceedingly active.

Many persons have marvelled at the uncanny accuracy of German bombers over France. Airport after airport has been wrecked. Factory after factory has suffered from direct hits. Sometimes air attacks are carried out from above the clouds. How can this be possible?

Well, it has recently been discovered that a small radioactive device—simplicity itself—has been placed into activity by fifth columnists. In this country a variation of that device is currently being used in paving the way for aviation safety and blind flying. It is a radio tube that looks like a doorknob, or half a dumb bell. Wherever it is placed it emits extremely short electrical waves at 20 inches, compared to ordinary radio waves of from 600 to 1,500 feet.

It is being used in some of our airplanes today to record the plane's elevation from the ground. Ordinary altimeters show only a plane's height above sea level, but in a plane equipped with a transmitter for these 20 inch waves, the waves can be sent earthward, will bounce back again in one 10-millionth of a second, and record on a dashboard dial the exact distance between plane and ground.

Since the waves are directional, the visionary prospect for airplanes is a series of these tubes, sending waves in all directions and receiving back recordings which can actually draw a pattern of the ground beneath the plane.

Thus it is possible for a pilot, flying blind, to tell exactly when he hits the dead center of an object on the ground which he is unable to see. All that is needed in time of war is for a fifth columnist to secrete one of these small tubes in, or near, a munitions or aircraft factory, or a fort or landing field, and a pilot flying blind will be able to bomb it effectively.

The entire United States could be thrown into utter confusion by a consistent bombing of its cities from which the populations would flee in terror. With millions of refugees from the metropolitan areas rushing aimlessly about the countryside, communications and commerce would be disrupted. They would have no idea where the invader would strike next. The country, with few exceptions, could be reduced to chaos within a few weeks, considering the state of its defenses today. And to build those defenses up to modern war-time strength will take a matter of years.

Another Threat

The threat of methods even more ghastly than bombing—the spreading about of disease germs—would add still another psychological terror to the confusion of an impressionable American public, too.

After all, the people of this land have lived in security for so many years now that they are not up to staring directly into the jaws of death. They have never had to face such realities before. War scenes of desolation and death flashed on the screens of local cinemas seem like little more than someone's idea of a nightmare. Each person leaves the theater with the happy feeling that such a thing couldn't happen here.

But it can happen. It is happening.

I am convinced that the Nazis will stop at nothing. They will even go so far, I am thoroughly sure, as to release swarms of locusts over Great Britain, as has been predicted in the daily press. They will if England does not capitulate. A war for world conquest is not a pretty thing. If results are to be obtained extremes, no matter how horrible, must be resorted to. Naziism, in a desperate bid for world power, is prepared to resort to them.

With the United States of America thrown into utter confusion by the bombing of its metropolitan areas, with Army and Navy and the air force trying to be in dozens of places at once, the invader will meanwhile have consolidated the gains which can be made in Mexico so easily.

The "Middle Valley," which will have seemed so deserted during the weeks preceding the South American flare-up, will suddenly bristle with tank-carrying airplanes, and with motorized troops. These will form the spearhead of the attack when the death blow to democracy is about to be struck. There will be numerous naval and air battles in and about the West Indies, in and over the Gulf of Mexico.

Invading Hordes

The invading hordes, however, will inexorably move toward the north. Tanks will dash across the border into Mexico. New Orleans will fall. The invader will have the United States by rolling up the Mississippi Valley and spreading out in fan shape.

The eastern part of the country will be divided from the West. From Mexico City more and more armored units and supplies will keep pouring—pouring through, perhaps, the old Aztec roads carved through the sheer face of stone mountains. German factories, assembly plants, ammunition dumps, will spring up overnight.

There will be a threat—the long anticipated threat—of trouble with Japan. She will move in from the Pacific, grab onto the East Indies possessions which she has so long cherished. As for Alaska—that is another vulnerable spot for any invader who wants to take the trouble of trying for it.

A blitzkrieg on the United States of America, which today isn't as well armed as was little Poland, is not as fantastic as it sounds. In fact, it is quite possible. Hitler, it cannot be overlooked, has predicted that he will control this country in 1944!

Air power and the fifth column will be the deciding factor. The fifth column is already at work in the western hemisphere. America is already being invaded. And one cannot help but shudder when he contemplates the utter self-confidence of the Nazis. In more than one city German steamship companies are already advertising the resumption of Nazi trans-Atlantic service by the end of July, 1940. The war in Europe, they claim, will be over by then! Nazi Germany, a nation of 85,000,000 people, is looking to the West!

When, you might well wonder, will the "real blow" at America be struck?

All I can say is that the events of the past few months, the succeeding disasters to the once invincible Allies, have proved beyond all doubt that speed and surprise, plus almost unbelievable air strength and perfectly trained troops, can answer such a question without any help from me.

In fact, in this era of undeclared wars, an enemy who gave any advance warning of the blow about to be struck would be regarded as senseless and foolhardy indeed.

The pity of it all is that it takes the democracies so long to recognize the significance of what is taking place before their very eyes.

Americans will keep on feeling secure behind the "protection of two oceans" until it is too late to do anything. Air speed has reduced those two oceans today to about the size of a ditch, comparatively speaking.

And the Atlantic Ocean, I say, is the LAST DITCH for the western hemisphere—and the LAST DITCH is always a trap.

DIVE BOMBERS

(Continued from Page 12)

defeated by the familiar German plane and tank combination. Driven from their advanced positions and forced to retreat on their base, the British and French troops were only too glad to abandon the expedition and escape in a hail of Stuka bombs.

As stated earlier, dive bombing tactics, in connection with mechanized columns, were introduced in Spain. The campaigns in Poland and Scandinavia, following in close succession, further demonstrated Hitler's new tactics.

During these years the Allied general staffs had ample opportunity to study the Nazi method and to develop a defense. The world took it for granted that they had done so, yet in May, 1940, we found German armies following the identical technique to roll the French and British forces back in confusion through the low countries! It makes one wonder if the German general staff is the only one in the world able to understand and wield the terrible sword of air power.

Originally developed by the U. S. Naval Air Service for the attack of enemy surface ships, the dive bomber was long considered a purely naval weapon. It can best be described as a sort of flying howitzer, carrying a heavy projectile high into the air and then dropping it almost vertically upon a comparatively small target.

Each flight of a Stuka is the equivalent of a single howitzer shot, as the usual load consists of one huge 1,000-pound high-explosive bomb, plus a few small fragmentation eggs.

Unlike the squat, clumsy howitzer, the dive bomber can shift rapidly from position to position and, moreover, has a range which often exceeds 1,000 miles. The weight of explosive dropped by a comparatively small, single-engined bomber is greater than that contained in the largest howitzer shells, and the Stuka's accuracy is far greater.

Stuka Requirements

The dive bomber differs from the ordinary level-type bomber in that the projectile is aimed by the simple process of pointing the ship straight down upon the objective.

In aiming the pilot must, of course, allow for his own speed, prevailing windage and target movement. Air brakes are usually provided to slow down the diving speed. This permits greater accuracy of aim and an easier pull-out. The bomb or bombs are slung beneath the fuselage and are mounted on a pivoted rack which swings them clear of the propeller. The bomb is let go during the pull-out, often at a height under one thousand feet.

The speed of the dive increases the vertical velocity of the bomb so that its penetration at low altitude is equivalent to that of a similar projectile released from level flight at far greater heights.

Bombs of 500 to 1,000 pounds were used against naval units in the North Sea fighting and sank or badly damaged destroyers, light cruisers and pocket-battleships. Despite German claims, the efficacy of bombs of this size against heavily armored battle wagons is yet to be proved.

The designer of dive bombers faces many difficult problems.

His ship must be strong enough to withstand sharp pull-outs. It must be maneuverable enough to evade enemy anti-aircraft gunners. The pilot's view over the nose must be especially good. If the machine is a single-engined type and the bomb is slung beneath the fuselage, provision must be made to guide the projectile clear of the propeller.

The twin-engined layout not only permits greater visibility forward, but also facilitates bomb displacement.

Diving brakes must be incorporated in especially "clean" machines which would otherwise develop too high a speed for accurate aiming. Special reversible-pitch propellers have also been tried for this purpose.

Lastly, the dive bomber should be a well-armed, high-performance plane, capable of protecting itself from enemy interceptors or even doubling in brass as a two-seater fighter.

Dive bombing and the pilots who specialize in it have been heavily over-dramatized because of the "9-G" pull-outs required until recently by the U. S. Navy.

During these culminating tests of a dive bomber's structural strength, the pilot is said to have no control as to the amount of pull-out force he puts on a ship. The only physical and mental reaction possible under the circumstances is to pray, pull like hell, black out, and hope that when he "comes to" again, both he and the airplane will still be in one piece.

To minimize the effects of abrupt pull-outs, test pilots often wear corset-like belts or strap their bodies with a covering of wide adhesive tape. It is also customary to yell during the dive in order to equalize the rapidly changing air pressure in the ears and lungs.

One service pilot discussing dive bombing wrote:

"The average pilot is uncomfortable only in prolonged dives from extremely high altitudes. Under 10,000 feet, the sensation is exhilarating, even in a terminal velocity dive. No other sport offers such a feeling of projection, for the very altitude of your plane, which becomes only an extension of yourself, is the factor which determines your accuracy."

He goes on to add: "A lot of bilge has been written about the tremendous bodily stresses that pilots undergo in this work, but the fact is that the human body can be subjected to stresses that will wrench the wings off the sturdiest airplane."

Diving the Ship

The tactics of dive bombing vary considerably according to the nature of the target and its defenses, the state of the weather and the type of aircraft employed.

Whenever possible, the Stuka attacks out of the sun in order to blind the anti-aircraft gunners. False preliminary dives, turns, loops and other confusing evolutions are usual during a clear weather dive bombing approach. Converging tactics are frequently employed by groups attacking a single objective.

It is reported that Japanese dive bombers, operating in China, approach their target obliquely at 2,500 to 3,500 feet. They then execute a sharp, 40 degree turn and dive on the objective at 60-70 degrees. The pull-out comes at 1,300 feet and escape is made in a turn.

Precise details of U. S. dive bombing tactics are, of course, not available for publication. A European authority, however, describes the following stages of a modern dive bombing attack:

"Phase 1 is a spiral from 10,000 meters down to 1,500 meters, completed in about 90 seconds. In Phase 2, the horizontal speed is reduced sharply while getting into position for the attack. The time allowance in this phase is 10 seconds and the usual course is 30-40 degrees to the direction of the final dive. Phase 3 is the actual dive on the target. It is made at 70 degrees and lasts 7 seconds. The release and pull-out at a height of 600 meters (Phase 4) occupies 2 seconds and the spiral climbing get-away (Phase 5), 90 seconds.

It is considered that during Phases 1 and 5, the Stuka has complete maneuverability and is therefore difficult to hit with anti-aircraft guns. The sudden reduction of speed in the second phase also disconcerts the gunners. It is in Phase 3, when the flight path must necessarily coincide with the trajectory of the anti-aircraft shells and bullets, that the dive bomber is in greatest danger. Phase 4 is said to be of too short duration for the guns to register.

During its final aiming dive the Stuka furnishes an excellent target for the anti-aircraft batteries. It may be subjected to a barrage of high-explosive shells, shrapnel, rapid-fire "pom-pom" shells and large and small caliber machinegun bullets.

The French artillery expert, Rougeron, recommends the use of shrapnel against dive bombers. Each 10 cm. shell contains about 240 bullets which are expelled in a relatively small cone. At a distance of 100 yards from the burst, the dispersion of the bullets is about one per square yard. At a distance of 650 yards, the dispersion has increased to a ratio of one in three square yards. Even at this distance from the point of burst, the impact of the bullets will be accentuated by the speed of the diving bomber and the damage done will be considerable.

Types in Service

Best known among the dive bombers now in active service is the famous German Ju-87 Stuka. It is a direct descendant of the K-47, manufactured by the Junkers Flugzeug - und - Motorenwerke in Sweden during the years when German military aviation was proscribed by the Versailles Treaty.

The Ju-87 is a two-seater monoplane powered with a 1,200 h.p. Junkers "Jumo-211" direct-injection, liquid-cooled engine. The ship is exceptionally easy to recognize because of its sharply cranked wing and fixed landing-gear. It is armed with two forward-firing wing guns and a flexibly mounted machinegun aft. A single large bomb of either 550 or 1,100 pounds is carried on a deflecting type rack mounted on the belly of the fuselage, directly behind the radiator tunnel. In addition, four 110-pound bombs are carried in racks situated on the under side of the wings, outboard of the diving brakes.

The machine is fitted with complete radio and night-flying equipment. A transparent enclosure covering the two cockpits can quickly be detached in the event that a bail-out becomes necessary. A sturdy "nose-over" guard occupies the space between the cockpits. The performance of the Ju-87 is comparatively poor. Its top speed is around 240 m.p.h., ceiling 24,500 feet and gross weight 9,350 pounds. The ship reaches a terminal velocity without diving brakes of 430 m.p.h.

Other standard German dive bombers include the Henschel Hs-123, a single-seater biplane, the Blome & Voss Ha-137, which bears a close external resemblance to the Ju-87, a specially stressed version of the recent Messerschmitt Me-110 fighter and the new Ju-88 twin-engined long-range machine.

England's dive bombers range from the Blackburn "Squa," a clean, low-wing, shipboard monoplane, to the Hawker "Henley" and the Fairey P.4-34, the latter combining dive duties with general purpose light bombing.

France's only up-to-date dive bomber is her Loire-Nienport 40, a single-engined naval monoplane. For the most part France relies on American Voughts and a few Fokker C-1s.

One of the most modern dive bombers in the world is Italy's Savoia-Marchetti S.M. 85. This is a twin-engined, high-wing monoplane of remarkably clean design. It is equipped with trailing-edge flaps which hinge through 90 degrees to act as diving brakes.

In the United States, where the dive bombing principle was originated, it is only right that both our Army and Navy should be exceptionally rich in the type.

The Navy has the Bell BG-1 biplane, the ultra-modern Brewster 138, a center-wing monoplane with retractable landing-gear, the Vought 156 and the Curtis "Hell-diver," latest model of a line of dive bombers.

Our Army has concentrated on the North-American, Vultee and Northrop jobs, all of them clean, single-engined, low-wing monoplanes of exceptional range and capacity.

It is a cheering thought at a time when our national defense is under fire to realize that the dive bombing tactics which are proving so important in Europe today were originated and developed by American airmen, and that our dive bombing airplanes, while still few in number, stand at the top of the list in quality and striking power.

I SAW THE HELL OF NAZI BOMBS!

(Continued from Page 33)

killers armed with automatic guns that can mow down thousands of men and boys armed with shotguns and rifles.

Military men agree that there is little England can do to stop the parachutists from landing and entrenching themselves in those first hours of the invasion.

After the parachutists will come Germany's secret armada of the air. A lot of stories have been circulated about this. One rumor in particular deals with giant planes that will carry tanks and drop them to the earth by a new hydraulic lift.

That Germany has huge transport planes is generally known in all neutral countries. Whether they can carry tanks is something that only the days to come can answer. The English are not overlooking the possibility. They are convinced that Hitler has some surprise weapon to spring at the psychological moment.

The landing of the parachute troops will be closely followed by the landing of huge transport planes.

Britain Is Vulnerable

Germany has a wholesome regard for the British fighting planes. Up to now the Nazis have suffered appalling losses in every raid they have sent over England.

This has been due to the fact that the English fighters have usually outnumbered the bombers —but the swarms of planes that will darken the skies on the day of the great attack will have a second purpose, and that will be to scatter the English ships to such an extent that the great transports can sneak in unmolested.

The first German attack will be directed from four bases, sending air fleets to England from different directions. They will come from the French ports, from the Belgian ports, from Rotterdam, and from the south coast of Norway.

With the enemy coming from four directions, the English fleet of fighters will be so widely scattered that the landing of the slow transport planes will be possible.

English military authorities admit frankly that England offers an almost perfect country for such an air invasion. Its great acres of meadowland, its moors, its rolling countryside—all offer perfect landing fields. There is, as a matter of fact, no part of England where transport planes cannot quickly find landing places and take off only a few minutes after their cargo is discharged.

All this must be taken into consideration on the day of the great attack.

How successful this invasion will be depends to a certain extent on the ability of the Germans to destroy English planes on the ground. Unfortunately while England slept during the first eight months of the war, nothing was done to make her airports and plane factories bomb proof.

In France and Germany many of the aircraft factories are below the ground. Not so in England. Every plant is vulnerable from the air. England made a half-hearted move to establish factories in Canada, but like all her other war moves it was feeble.

Evacuation at Dunkerque

Of course, any air invasion must simply be the forerunner of the great invasion by sea. Parachute troops can land and gain control of the important railroad junctions and industrial centers, but if supplies and help are not rushed to these troops, they can't last long.

Huge transport planes can land troops by the thousands, but these men have to be fed and supplied with ammunition. In England today is a force of nearly a million and a half trained soldiers, supplied with fair mechanized equipment.

These mechanized forces will be able to play havoc with the parachute troops unless help reaches them, and therein lies the crux of the success of the German invasion.

The Nazi invasion of Britain was a very definite threat before May 25th—a threat that had every English military man awake at night—but what happened in the six days following May 25th caused all England to breathe a bit easier.

I happened to witness the first days of the event which gave Britain hope—an event which will go down in history as one of the greatest air and naval achievements of all times.

The English B. E. F. was trapped in Flanders. Nazi armies were closing around it with relentless fury. Scattered remnants of the first, ninth and seventh French armies were also caught in the trap.

The only avenue of escape was across the English Channel to England. German forces boasted that the French and British would be wiped out. They boasted that their Stuka bombers would blast the English fleet from the Channel and sink every transport that tried to get the troops across.

The world accepted these boasts. At Namsos the Stukas had blasted the English out of Norway. Bombers had blown the English fleet from the Kattegat. And the English Channel was an even more deadly spot for a navy to be trapped.

On May 27th, the first big scale operations of evacuating the trapped Allies started from Dunkerque. The port had been bombed until it was impossible for a ship to enter it. The town itself had been leveled to the ground.

Miracle Happens

The waters between the English and the French coasts were filled with the much-advertised motor torpedo boats of the German Navy. German submarines were out in force.

The Nazis boasted with typical arrogance that they would sink every enemy battleship and every transport. They said their dive bombers would massacre troops trying to board those ships.

Yet the miracle happened. The English and the French and Belgian troops were loaded on ships and ferried across the Channel. And while all this was going on, units of the French and English Navy stood along shore and laid down a barrage of big shells that kept the Germans miles from Dunkerque.

The vaunted air power of the German bombers was made to look a little silly. The Nazi threat to sweep England from the sea was a feeble and futile effort.

The story of what really happened there is not fully known. I witnessed the first part of the evacuation from a plane flying across the Channel, but the best description came from an English officer who was stationed at Dunkerque.

I will give that story as it was told to me in London, two days after he landed. It is a graphic and stirring account which shows the courage and the strength of the English people.

"When King Leopold surrendered," he explained, "we all knew that our fate was up. We were surrounded by German armies on three sides, and they were blasting at us with savage fury. Giant tanks, immune to anti-tank guns, thundered at us from all sides. Stukas dove within fifty feet of our troops and let go their bombs of death. But our lines held out. Using our three-inch cannon, we stopped the great tanks dead in their tracks.

"The dive bombers took a large toll the first few hours, but then English Hurricanes and Spitfires began appearing and many of the Stukas fled. They always flee when they are faced with action. Many of them were brought down. We started our retreat, fighting rear guard action, keeping the Germans back. That first day was hell, but when the second day came, we got unexpected support.

"A Living Hell"

"At first we couldn't conceive where it came from, but it was a withering barrage of artillery fire that blew German tanks and trucks through the air. It stopped the Nazis dead in their tracks.

"Then we learned that the firing came from the Allied fleet stationed along the shore. We couldn't believe our eyes, because we were taught to believe that our battleships could not stand up against the Stukas. But there they were, over fifty French and English naval units, blasting away with all the fury of powerful guns.

"And we weren't in Dunkerque an hour until we began to realize what was happening. The air was full of Spitfire and Hurricane fighters. They blasted more German bombers out of the skies.

"Dunkerque was a living hell. It seemed that even the sand around the town was burning. The city itself was nothing more than a smouldering ruins. We didn't have any protection. The ruins were filled with English and French soldiers. They lined the beaches for miles.

"There was no hysteria or panic among the thousands of soldiers moving into Dunkerque. They were singing and cracking jokes and waving at the dive bombers to come on.

"The water in front of the town was covered with small boats. Every type of shallow vessel was out there.

"While we marched toward the beach, two French divisions and one English division were holding the Germans back. These troops stood like rocks and inflicted hideous losses on the Nazis that charged at them in close formation.

"I was on that beach with my men for five hours. In that time I witnessed one of the most amazing feats of modern warfare. I saw long lines of battleships standing out at sea, blazing away with no let-up at the Germans twenty miles back from the shores. I saw wave after wave of dive bombers hurl themselves at those ships. I saw Stukas drop into the sea as fast as anti-aircraft guns roared.

Shooting the Stukas

"I saw swarms of British fighters dive nose-first for the bombers. I saw the famed Stukas practically blasted out of the air in five hours. I saw thousands and thousands of troops evacuated with an ease and orderliness that made it look like the transfer of troops from one part of England to another in peacetime.

"I saw the fury of the German air force dash its head helplessly against the naval and air power of England and get a whipping from which it won't recover for some time.

"It was late in the evening when my men got into a small boat. Dive bombers seemed to pick us out. They came down at us like demons roaring in the air. They dropped their bombs, but not a single projectile came within dangerous distance.

"My men fired at the planes with their machineguns. This seemed to frighten the German flyers. They wouldn't come near enough to strafe our boat. We got across and didn't lose a man.

"I would like to shatter a German boast about their famous dive bombers. Either the planes are not well constructed or their pilots are jittery, because every time we met them at the front their aim was yards off and the damage they did was mostly noise. It will take more than the Stukas to win the war for the Germans, and more than their vaunted tanks. The next time we meet them it will be a different story."

The facts told by the English officer were confirmed by the accounts of hundreds of other soldiers. I saw them unloaded at different points on the English coast. The English have not issued any official report of the number of men evacuated or the losses in the undertaking.

Talking with the troops gave me a pretty accurate account of the losses, however. If any large battleships had been sunk the news would have quickly spread. If any big units had been lost in the crossing, this news would have leaked out.

Navy vs. Air Force

The real truth is that the English and French and Belgian troops were brought back to England under the threat of the dive bombers and motor torpedo boats and submarines with a very small percentage of losses.

But the greatest achievement in the eyes of the English was the complete and overwhelming victory of the Navy against the bombers.

To the English the great unanswered question about the power of the air versus the Navy has been answered. And the answer is an overwhelming victory for the Navy!

And as long as the English Navy rules the waves, any invasion of England will be a foolhardy venture, costing the lives of a million Germans.

The Nazis are now boasting that it will take just a few weeks for their bombers to blast the English Navy into impotence, but the British smile at this.

The Germans couldn't do it at Dunkerque and they will never get a better chance.

The great air power of Germany is no longer the bogey man it was to the average Englishman. Britain is ready for the attempted invasion—and not even nervous about the outcome.

TRAINING THE DREADED UMBRELLA MEN

(Continued from Page 26)

assigned three separate types of planes to their parachute troops, one machine specifically built for the tactic. The Air Ministry designated Morane and Liore-Olivier ships to the training school, together with the Potez 650, capable of carrying 15 men and their equipment. Fitted with two 720-horsepower engines, the Potez was expected to fly far and wide in furthering parachute attacks. Its cruising range was 375 miles. One trap door was provided for the exit of the parachute soldiery, and every man was out of the ship nine seconds after the door was opened.

The French parachutists' armament was commendably complete. Each jumper carried a sub-machine-gun, a service rifle, a pistol and ammunition, all encased in a leather sheath which dangled below him at a distance of seven feet. Sixty feet off the ground, the jumper cut loose the sheath to prevent its becoming entangled with his chute on landing.

Steel tubes, carrying knocked-down machine guns and ammunition, were dropped by separate chutes. The tubes also could carry one 37 millimeter cannon, or an 81 millimeter mortar or two 60 millimeter mortars.

It was the French idea that all parachute work should be done at night, for the maximum safety of the troops and the best chance of their carrying out their mission. It is not on record that the Germans have resorted to night parachute attacks.

British Were Slow

And the British?

The world's greatest empire, its destinies directed from islands protected by a moat, has been slowest of all to appreciate the value of the parachute. While the German High Command banked on air power for the military future of the Greater Reich, the British in fact let their air defenses slip to an all-time low in spite of the bellowed warnings of Winston Churchill.

It was not until 1937 that the British announced the formation of a special aerial infantry corps. Though Britain was wise enough to use airplane troop transports to help quell the Kurd rebellion in Arabia, British parachute tactics are still in a formative stage. Only defensive tactics against the descent of German parachutists on the Island Empire have been organized with any degree of perfection.

Italy's use of parachute troops prior to this war was limited to maneuvers in its colony of Libya, across the Mediterranean from The Boot. There even colonial soldiers were trained to bail out and grab for thin air. During the Ethiopian campaign Mussolini employed 240 transport planes to drop supplies to Italian columns by parachutes.

To Hitler, the "man in a hurry," goes the credit for passing up no bets in developing his air power as an answer to the expensive and formidable sea power of Great Britain.

A certain amount of secrecy has been thrown around Hitler's amassing of parachute troop brigades, but training on more than an experimental scale is known to have begun in Germany with the advent of the Nazi regime in 1933.

Hitler did not originate the idea that Germany's future lay in the air. Captain Eddie Rickenbacker, America's leading ace in the World War, relates that as far back as 1922 he was told in Berlin that Germany must become the world's foremost air power or perish in the attempt. Nor, as has been shown, did Hitler "invent" the parachute attack. Credit for that, at least on a mass scale, must be given to the Soviets. But Hitler, master of adaptation, has exploited the parachute tactic to the fullest extent.

"Vertical Envelopment"

For his "vertical envelopment attack," first glimpsed in Poland last September and carried to fruition in Norway and the low countries and — finally — in his vicious flanking movement on the Little Maginot Line which swept his legions into France, Hitler trained his parachute troops.

It is not our purpose here to pass on his methods. World opinion must decide whether, as his enemies charge, he dropped regular soldiery in the low countries disguised as priests and workmen. Under international law, soldiers must be garbed as soldiers, and citizens must not take up the rifle against them, on pain of death.

If parachutists bailed out over the Low Countries attired as men of the cloth, and died at the hands of angry natives, they met a just fate. If they floated down as spies and saboteurs, too, they had the finger of death on them.

The only point to be remembered is that Hitler's "vertical envelopment attack" necessitated the use of parachute troops. They were part and parcel of the speed with which his legions moved.

The German Army credo rests on the element of surprise, of demoralizing the enemy by appearing suddenly in the rear of his lines, of infiltrating into those areas where reserves, moving up to the line of battle, find themselves unaccountably at grips with soldiers who by all rights should be miles ahead.

The German "Soldat der Luftwaffe," engaging in the most dangerous of activities in wartime, and as such a volunteer who is received by Adolf Hitler personally and decorated for special exploits, has a multiplicity of duties in furthering the swift movement of the Reich's highly mechanized and motorized armies.

Troops Well Trained

And he is well trained for the job. Attired in his shock-absorbing hat, his shoes with their heavy rubber soles, his loose-fitting trousers and blouse, he learns his jumping aloft. Hitler had no time for putting his soldiery through a tower-jumping curriculum, as in France and Russia. At the door of the transport plane the student jumps, but an ingenious device prevents his falling free. Only when he has learned to overcome his fear of jumping is he permitted to bail out.

He must know soldiering as a profession because, once aground, he is a soldier (or a spy or saboteur). He must learn how to pull on his shrouds to alter his rate of descent and come to a landing in a chosen spot. He must learn how to collapse his chute in a strong wind by yanking on the shrouds as soon as the billowing silk is robbed of its weight. He must know how to stop his oscillation in the air and how, by twisting his body in his chute harness, to stop the turning movement imparted to him if his shrouds become twisted.

He must keep his arms high, his feet close together and his knees flexed for the shock of impact with the ground and the forward roll which is the end of a perfect jump. He must learn how to pack and care for his own chute, to sprinkle it with napthelene and to stow it away in a ventilated metal case. He must know fundamental aerodynamics, meteorology, navigation, aerial photography and map-reading.

They are human, these men, be they Americans, Frenchmen, Italians, Britons or Germans.

"There is an initial feeling of fear," one German parachutist wrote in a German publication.

That hardly sounds like a "Man from Mars."

"There is no feeling of being in an elevator," he went on, "and it is not like falling in a dream. Those are not the bad aspects. The bad aspects are in getting dragged by your chute on the ground and getting burns on your skin."

Still pictures, model chutes and films are used to instruct Germany's parachute armies. Volunteers must be good physical specimens. Their hearts, nervous systems and reflex actions must be perfect.

Weight-lifting, swimming, tennis and fencing are recommended to parachute soldiery in training to strengthen muscles and add to endurance. Special inducements are offered German volunteers. Their dependents are given added insurance benefits in the event of death. A man must learn how to jump with a weight of 65 pounds, including that of his chute.

In a German parachute group three men carry light, knocked-down machineguns. One bears the barrel and firing device, a second the mount and a third the ammunition. Other air infantrymen are equipped as sappers, dynamiters and ordinary fighters. All carry concentrated foods for use in the event they become isolated.

Sabotage and Terror

In the low countries campaign, where parachutists were employed on an heroic scale, umbrella tactics had a three-phase significance: (1) men dropped from the skies frankly sought the cooperation of fifth columnists to terrorize the populace and commit sabotage; (2) they constituted light holding forces, fighting desperately to grasp and cling to strategic points pending the arrival of motorized columns, and (3) they assaulted the meager defenders of enemy airdromes to pave the way for the landing of troop transports. It will be a dramatic story when the full facts of the struggle for the Rotterdam airdrome finally come to light.

Orders were given each group of parachutists before they boarded their plane to govern their every move, in every contingency, because as yet no radio transmitting equipment with sufficient range and lightness to be carried by umbrella troops has been devised.

As in all air forces, the Luftwaffe had developed its photographic "objective folders," so that every square foot of the enemy terrain to be exploited was known before the campaign started.

Umbrella armies of the future, perfected in the red cauldron of the present war, hold a particularly vicious threat for the great and fertile expanses of the western hemisphere.

President Roosevelt repeatedly has referred to the necessity for establishing an adequate "hemisphere defense." In South America, in Canada and even in Greenland, an assault by umbrella men, diving earthward from long-range transport planes, might prove to be the opening salvo in an attack directed ultimately at the United States.

In war, as in peace, possession is nine-tenths of the law; and areas once captured by an enemy are hard to recapture.

We are only on the threshold of air power, in all its terrorizing aspects. Tomorrow's parachute armies, swaying under the silk canopies made so cheaply that they can be discarded if necessary once a landing has been effected, may number in the hundreds of thousands of men.

Improvised airports, prepared overnight by those armies, can be used by huge transport planes to deposit artillery pieces of as great a caliber as three inches, as well as small tanks, provisions and ammunition.

One American aircraft manufacturer today has drawn designs for a long-range plane to be used expressly for the transport of small cannon and tanks. If America is thinking in such terms, other world powers are too.

Canopies of Death

America already has done much of its parachute research work. Roscoe Turner, the retired air speed merchant, years ago demonstrated that an entire airplane can be lowered by parachute in an emergency. American chutes are used the world over. Our Air Corps has used ring chutes at altitudes as low as 300 feet with safety.

That puts into new focus the amazement which greeted the announcement of some European war correspondents that German umbrella men were jumping from "suicide altitudes" of less than 300 feet. It can be done, though unconfirmed reports have it that the Germans suffered casualties of ten percent in their parachute training schools.

Meanwhile the fires of Europe's war are being fed with the death and destruction borne by silken canopies. And the British, tradition-ridden, probably are hoping for Germany's umbrella men the fate which befell a jumper there a few years ago when the parachute was a gadget for peacetime entertainment. He landed on top a lion's cage in a London zoo, and yelled bloody murder until the keeper came!

I FIGHT STUKAS!

(Continued from Page 7)

patrols and one night patrol each day, nerves began to be shattered.

Eyes were heavy from want of sleep and bodies ached from fatigue, but on and on we went. We had no choice. Dog fights became hideous nightmares. We landed our planes, re-fueled and re-loaded our machinegun magazines and took the air again.

On Constant Duty

Every day became a continuous patrol duty. Nights brought only a few hours of sleep, and presently we were living in that same cauldron of hell that the armies on the ground were boiling in.

You can't describe that terror and that horror. You can't describe those taut nerves and those aching bodies. You can't describe the hopeless desperation of it all.

They are things so terrifying that words are flat. Death no longer frightens one. You are simply atoms of human flesh being thrown again and again into battle until every nerve goes dead and every movement is a numbed effort.

To it all there had to be an end. Day after day we went up, fought odds as high as ten to one against us. Again and again we beat those odds. It seemed incredible and inhuman.

Days ceased to exist. Hours were as nothing. Nights came and passed in dazed sleep. Always we were in the air. We executed screw candelles in the numbed manner of men walking in their sleep. Wingovers and dives we went through in the same way.

I know now that five days after that fight against the Stukas over the French lines, my plane was shot out from under me. I didn't realize then whether a week or a month had gone by. A soldier at the front loses all sense of time.

Do or Die!

On May 21st (I learned that date later) I was over the city of Calais. The air was full of German fighting and bombing planes. We were in a do-or-die fight.

I don't recall much about that fight. I had had three hours sleep in a forty-eight. I fought to keep awake as I dove and looped and fought with ships on every side.

Then I was in a wingover. I was about to loop back. It seemed that the whole bottom of my plane was blown out from under me.

Maybe it was. I never saw the ship again. I was falling through space. I yanked at my parachute rip cord. I landed at the edge of Calais, among French troops.

I had three machinegun bullets through my legs. My right arm was broken. I was taken to an English hospital. They say today that it will take two months for me to recover.

Two months and then the same story again. . . .

But now, with France out of the war, I suppose my next mission will be to defend Britain. We will, perhaps, go into battle against the Stukas and Messerschmitts over London, or Birmingham, or Bristol. We will have to riddle the huge transports, bearing parachute troops, which everyone expects Hitler will use in his projected invasion.

What will the outcome be? We an only fight—and hope.

Meanwhile there will be more leath in the clouds, more day-and-ight vigils, more blasting of hot ead in the dogfights.

It was an American general who gave that graphic description of war.

And General Sherman was right! War is hell!

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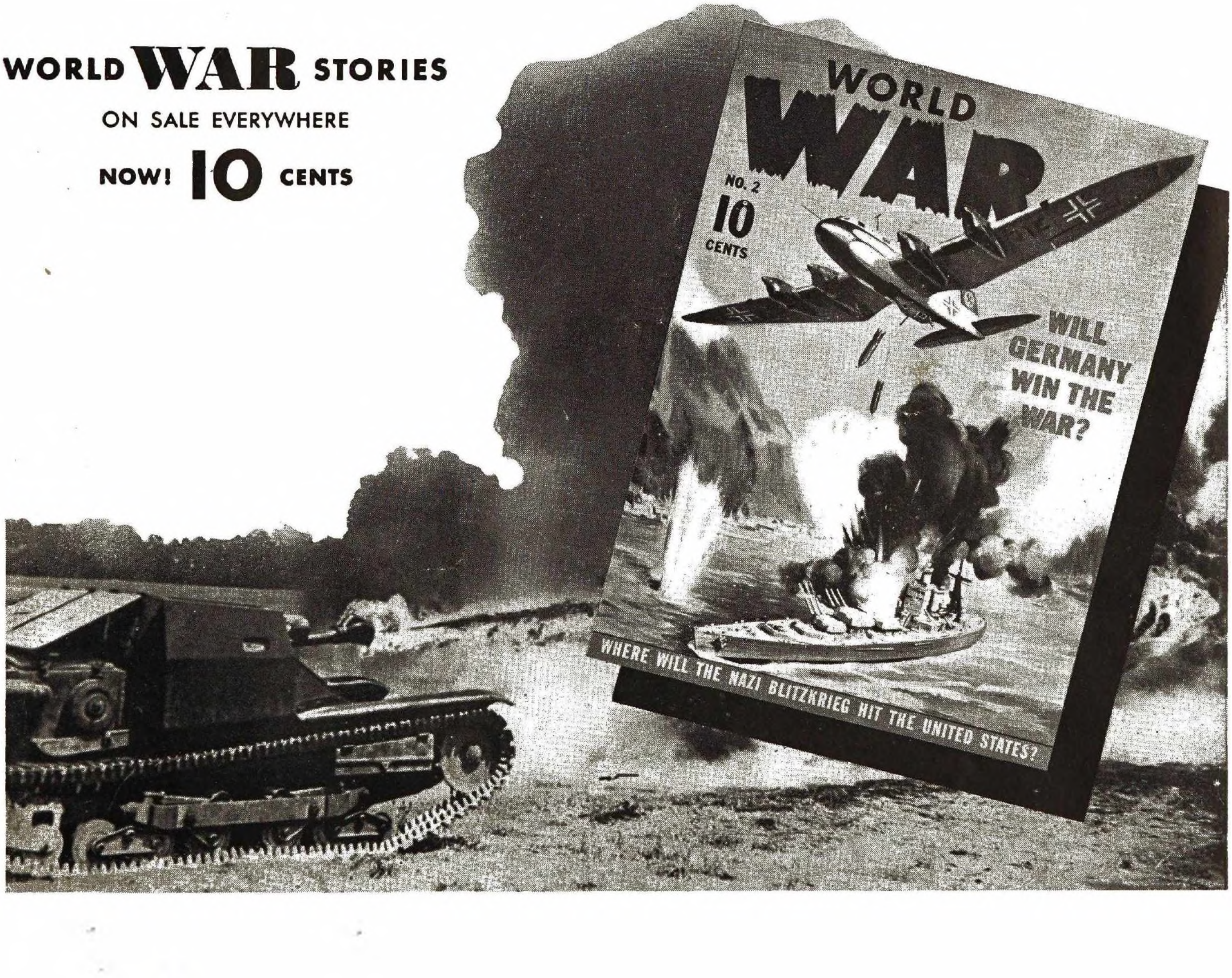
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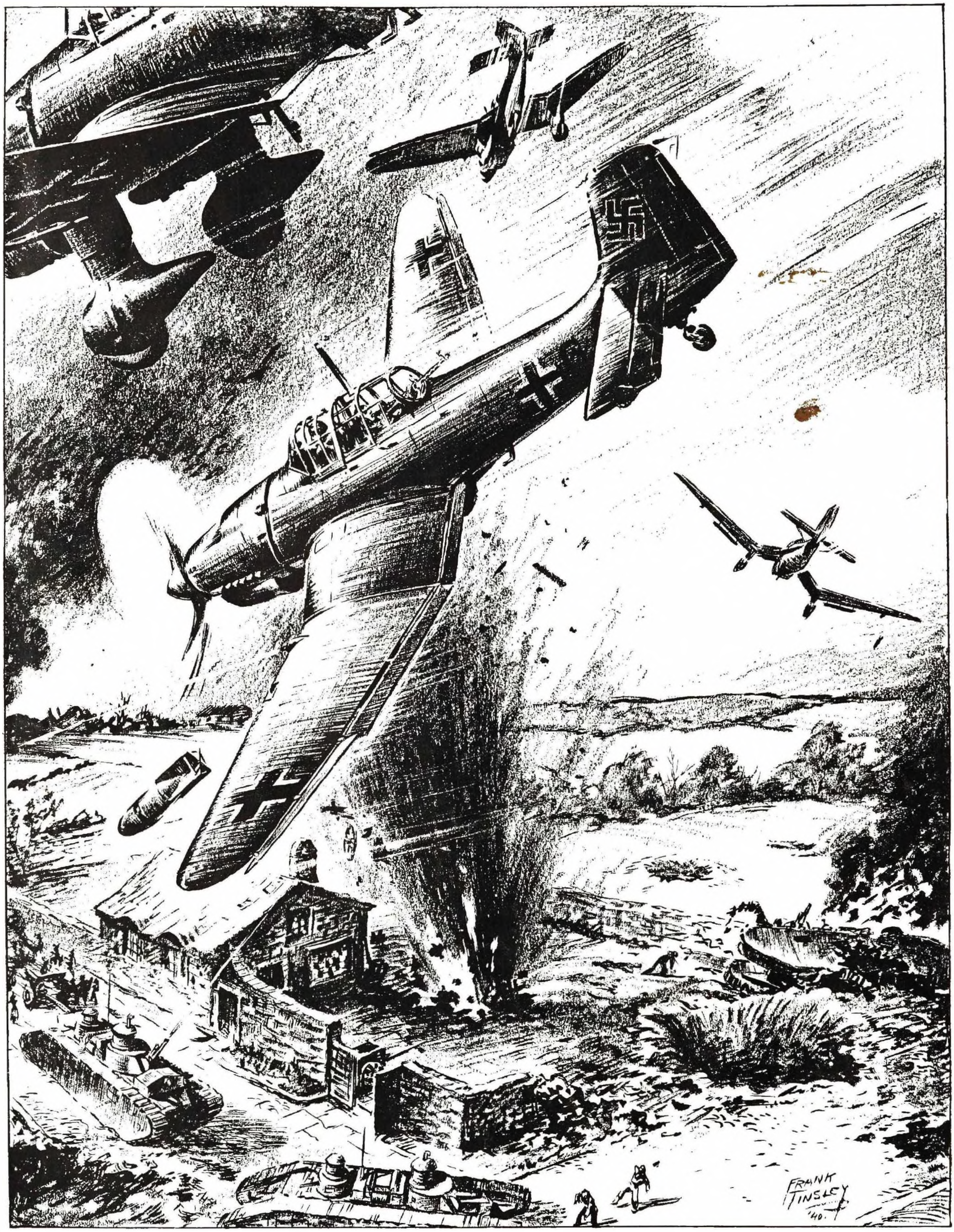
FRANK TINSLEY '40.

Spreading death and destruction, striking terror to the hearts of troops and civilians, the famous German Stukas paved the way for the blitzkrieg in the low countries and the drive toward Paris. Their blasting tactics are illustrated in this accurate drawing by Frank Tinsley. The Nazi plane in center has just dropped a bomb on a column of Allied tanks.